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## CESAREAN SECTION, WITH SPECIAL REFERENCE TO THE TIME OF OPERATION AND ITS TECHNIC *


LEWIS S. McMURTRY, M.D., LL.D.
LOUISVILLE, KY.


One familiar with the history and progress of abdominal surgery must be impressed with the similarity in the development of ovariotomy and Cesarean section. The latter operation is much older than ovariotomy, but the indications for its application are less definite and positive, and it has been universally regarded as a final and desperate effort at delivery when other measures have been tried and have failed. Like ovariotomy in its early development, Cesarean section has been fostered under the care of a few operators, who have struggled on in their efforts despite the discouragement of a heavy mortality. That the Cesarean operation is so far behind ovariotomy and hysterectomy in professional favor and in general application when indicated is due for the greater part to the fact that the surgeon competent to do the operation rarely has access to the patient until she is exhausted, often infected, by futile efforts at instrumental delivery. With patients afflicted with ovarian and uterine tumors no other operation is considered prior to ovariotomy and hysterectomy, and the operations are eminently elective, instead of being, as too often obtains with the Cesarean section, operations of emergency.

The patients requiring delivery by abdominal hysterotomy who are so fortunate as to be confined in maternity hospitals, where every modern facility and surgical skill are at command, compose only a small proportion of the great number who meet the same issues of life and death amid the disadvantages of confinement in their own homes.

The late Dr. R. P. Harris, of Philadelphia, writing in 1889, reported that there had been 175 Cesarean operations in the United States with 110 deaths. He also states that from April, 1884, to February, 1885, six Cesarean sections were done in this country and all of the mothers and children died.[1] Lusk reports on high authority that in the lying-in hospital in Vienna during the nineteenth century up to 1880, not one woman had survived Cesarean section. On equally high authority, he reported that in Paris up to 1873 there had not been one successful Cesarean section in eighty years. I beg to follow this report of Lusk showing the results of the operation prior to the antiseptic era, and the report of Harris after the antiseptic era, but prior to the perfection of aseptic methods and before the general adoption of Sänger's technic, with present-day results.

In Germany the operation has attained a high degree of perfection in the hands of Sänger, Leopold and Olshausen. The latter (Olshausen) has reported a series of sixty-five cases with a mortality of 4.6 per cent. Reynolds, of Boston, reports in 1907 thirty cases without a death. In all these cases the operation was primary; it was elective, and the patients had not been subjected to repeated examination and efforts at delivery. These results mark the standard that can be attained by early examination, hospital facilities and surgical skill.

Dr. Asa B. Davis, of the Lying-in Hospital in New York, reports (September, 1910) that in a service of 68,200 obstetrical cases at that hospital there were 256 Cesarean sections performed. The maternal mortality was 14.06 per cent.; the fetal mortality 20.08 per cent. Of these, seventy-eight operations were performed by Dr. Davis, with a maternal mortality of 16.67 per cent. Of these thirteen deaths, the report gives among causes of death the following: "prolonged labor, sepsis, suppression of urine; midwife in charge for twenty-four hours"; another "prolonged labor, sepsis before admission to hospital"; and "prolonged attempt at high forceps by private physician; general streptococcemia." Twelve of the sixty-seven women had had repeated Cesarean sections; one had undergone the operation three times and one five times. In some of these cases the operation was necessitated by multiple sarcoma of abdominal and pelvic viscera, or by carcinoma of cervix and vagina; and there were seven cases of eclampsia. A study of this report will convince one that if every reasonable advantage be utilized, if the operation be not delayed and if the patient is not infected beforehand, this operation can be done under proper hospital conditions, in uncomplicated cases, with a mortality as low as that of ovariotomy.

As with all abdominal operations, the splendid results of the present time have been made possible by the discovery and perfection of aseptic surgery. In 1876 Porro made the great contribution to the operation which has forever attached his name to the radical operation. To Cesarean section as previously performed he added hysterectomy. By this procedure both hemorrhage and sepsis were materially lessened. It gave a great impetus to the operation, and in labor complicated by uterine neoplasms will remain a standard and perfected operation. The greater number of the Cesarean operations done by me have been based on this indication, and consisted of the Porro operation with retroperitoneal treatment of the pedicle. It is an ideal operation under such conditions.

* Read before the Southern Surgical and Gynecological Association, at Nashville, Tenn., Dec. 14, 1910.

1. American System of Obstetrics, 1889, Philadelphia, Lea Bros. & Co.

In 1882 Sänger made his epochal contribution to the technic of Cesarean section. Previous to this time, after incision of the uterus and delivery of fetus and placenta, the uterine walls were left to be approximated by the physiologic contraction of the uterus. Sänger demonstrated the importance of suturing the uterine incision with deep sutures down to, but not including, the uterine mucosa, and adding a neat suturing of the peritoneum over the entire length of the incision. As a result of Sänger's addition to the technic of the operation, and the simultaneous improvement in aseptic surgery, the operation was at once followed by unprecedented success and has attained its present high place as an operation of choice.

The operation as practiced by Sänger consisted of the median abdominal incision midway of the abdomen; turning the uterus out of the abdomen before opening it; two or three sutures were placed at the upper angle of the abdominal incision and tied after the uterus was delivered to protect the subjacent peritoneum; a sheet of rubber was then placed beneath the uterus to protect the lower peritoneum; the cervix was constricted with rubber tubing to control hemorrhage; the uterus was incised through its anterior wall vertically; fetus and placenta delivered; the rubber tube removed as soon as uterine contraction obtained; the uterine sutures were of silk and were placed as already described; before any of the sutures were tied the uterine cavity was washed out with an antiseptic solution, and the uterine cervix dilated to insure drainage. The uterus was then returned to the abdomen, and the abdominal incision closed.

As in all abdominal operations, this operative procedure as devised by its author has been simplified with experience. It was soon discovered that the elastic tube placed around the cervix produced atony of the uterus and predisposed to post-partum hemorrhage; also that it frequently encircled the child's head and interfered with delivery. The constricting tube was first replaced by manual compression of the uterine arteries by an assistant. Later even this was found to be unnecessary, as the hemorrhage can be effectually controlled by the pressure of a gauze towel packed into the uterine incision while the sutures are being placed. The uterus need not be brought out through the abdominal incision, and all exposure and handling of the abdominal viscera should be avoided. At the beginning of the operation an assistant should place his hands flat on the abdominal wall, one on each side, hold the uterus steady, and keep the abdominal wall closely in apposition with the uterus. A double tenaculum at the upper angle of the uterine incision, another fixed in the lower angle, will give the operator perfect control of the uterus while incising and suturing that organ. The utmost care should be observed to protect the peritoneum from the amniotic fluid. Davis assures us that in no instance has he found it necessary to dilate the cervix to secure drainage. No application of any kind should be made to the uterine cavity after the fetus and placenta have been delivered. The suture material best adapted for the uterine incision is chromic catgut, No. 2. The after-treatment is the same as that of other abdominal operations.

The operation should be performed with the same deliberate care and expedition as are observed in other abdominal operations. There seems to be a general impression on the part of surgeons that exceptional rapidity bordering on haste should characterize the steps of the operation. There is no valid reason for this.

Davis makes the abdominal incision above the umbilicus, and the uterine incision just below the fundus of that organ. I do not believe that the site of the incision is of essential importance. The abdominal wall at the full term of pregnancy is thin and relaxes easily. As soon as the abdominal incision is made and the uterus exposed, long gauze pads wrung out of warm salt solution are placed within the abdomen to hold back the omentum and intestines and protect peritoneal surfaces while the uterus is being emptied and closed.

Unfortunately, in the majority of cases, the operator has no choice as to the time of election for the operation, the patient being usually in active and prolonged labor when he is called on to operate. When the patient is under observation in advance and choice of time for operation can be made, it is preferable to operate after labor has assuredly begun. To elect this time from the menstrual history is inaccurate and will not infrequently result in the delivery of a premature child. No dilatation of the cervix or preliminary vaginal operation, other than thorough cleansing of the vagina, should be done.

With the demonstrated results of Cesarean section, as now obtained, the scope of the operation must necessarily be widened and its application greatly extended. What is most needed at the present time (and this thought has inspired this paper), is an active interest on the part of all abdominal surgeons, and such a campaign of education as was successfully applied some years since in behalf of early operation in other conditions requiring prompt surgical intervention. It is established that the primary Cesarean operation in skilled hands has a mortality quite as low as uncomplicated ovariotomy and clean hysteromyomectomy. With repeated examinations, cervical dilatation and application of forceps, carried out with crude and desultory observance of aseptic precautions, the mortality of abdominal hysterotomy is unnecessarily increased. The cooperation of the surgeon and the general practitioner is necessary to correct this fatal error.

Fourth and Chestnut Streets.

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## THE MOBILIZATION OF JOINTS BY MEANS OF THE RUBBER BANDAGE

A. C. STRACHAUER, M.D.
Associate Surgeon, Minnesota University Hospital
MINNEAPOLIS

The mobilization of joints is a common field of neglect. The patient with a stiff joint following fracture is often told that time alone will bring a restoration of the normal range of motion, which is in a degree true, but the patient so dismissed feels, and is, neglected, for much time can be saved for him by proper treatment. Not this alone, but many a brilliant success in fracture treatment is greatly overshadowed in the patient's estimation by the resultant stiffness following the removal of splints. In addition to the cases in which time alone usually successfully obtains the normal range of motion, is the group of immovable joints, and cases of limited range, which, if neglected, do not improve, and which, with the exception of those of bony ankylosis, exuberant callus or displaced fragments following fracture—cases of mechanical obstruction to be relieved alone by operation—brilliantly respond to proper treatment in various degrees.

The causes of the stiff joint following fracture, exclusive of the results of direct injury of the joint, are: edema, atrophy, shortening and loss of elasticity of muscles and the periarticular tissues; cicatricial contraction and fibrous changes, more common in suppurating open fractures, and traumatic arthritis. This stiffness of joints, as is well known, obtains not only in the structures directly involved but in the related joints of the extremity, due to a coincident sprain or to enforced quiet, as a part of the dressing; i. e., stiff knee after fracture of thigh; stiff elbow, wrist and fingers after fracture of arm.

TREATMENT

Massage, hot and cold baths, high dry heat, active motion, *less passive motion*, and the method of mobilization by means of the rubber bandage to be now described, and which is not intended to replace or minimize the importance of the first mentioned measures, constitute the treatment.

Gradual strong flexion and extension is obtained by the application of a rubber bandage of the ordinary 2½ inch variety, or of double weight for most of the dressings. The manner of the application is made in accordance with the indications and requirements of each case,

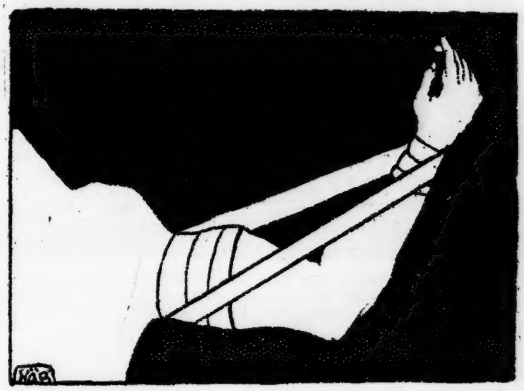

Fig. 1.—A method of securing flexion of the elbow-joint by means of a rubber bandage.

and is so made that the contraction of the bandage takes place in the line of the desired increase of motion; that is, in the line of normal movement.

The elastic contraction of the rubber bandage by its gradual, even, confidence-gaining quality, overcomes, first, the voluntary and spasmodic contraction of the guarding, protecting muscles and tires them out. Complete relaxation is so obtained, at which stage the contraction of the rubber bandage is exerted on the shortened, contracted structures and mechanically stretches them. By this means, at one sitting, a range of motion far greater than can be obtained by passive movement is realized, which is not followed by so great an irritative reaction and which is not so painful as effective passive movement. The patient's confidence in making greater active movements is also greatly increased by the demonstration of the degree obtainable with the rubber bandage, and his cooperation from now on is obtained.

A small amount of pain and discomfort is permissible during the treatment, the length of which is controlled by the patient's fortitude and disposition, the rule to be strictly adhered to being that the joint should not be tender on the following day. The first several applications are made every second day, after which they should be made daily.

Joints of false or fibrous ankylosis, in which there is no danger of making active a quiescent infection, should be broken up under anesthesia, the reformation of such ankylosis prevented, and the mobility increased by beginning on the second day following the forcible procedure, the application of the rubber bandage method.

TECHNIC IN SPECIFIC CASES

*The Elbow-Joint.*—For flexion: Secure the initial extremity of the rubber bandage without stretching by several circular turns around the forearm, just above the

Fig. 2.—Another method of securing flexion of the elbow-joint; curtain rings are secured to the arm and wrist, through which the rubber bandage is drawn.

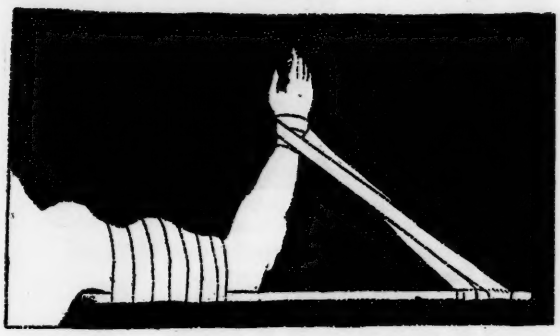

Fig. 3.—Method of securing extension of the elbow-joint. A straight splint is secured to the arm by means of a roller bandage and extension is made from the distal end of this by means of the rubber bandage encircling the wrist.

wrist; carry the stretched bandage to the upper end of the arm, making one unstretched circular turn around the limb, and then return with stretched bandage to the starting place above the wrist, where a single circular unstretched turn is made. Repeat the application between the wrist and arm several times with the bandage on the stretch, omitting the circular turns (Fig. 1). In certain cases it is of advantage to modify this dressing and those portions of the following in which the rubber bandage is secured by completely encircling the limb, by fastening by a gauze or muslin bandage at such places a large wooden curtain ring of the ordinary variety, the stretched rubber bandage being then carried through these rings instead of surrounding the limb, so insuring security and avoiding any possible constriction of the circulation (Fig. 2).

For extension: Fasten securely to the arm, by an ordinary gauze bandage, a firm, straight posterior splint, somewhat longer than the length of the complete upper extremity. Secure the initial extremity of the rubber bandage by several unstretched circular turns around the forearm just above the wrist; carry the stretched bandage to and around the free extremity of the posterior splint, and return with stretched bandage to the starting-place, repeating the application between forearm and splint a half a dozen times (Fig. 3).

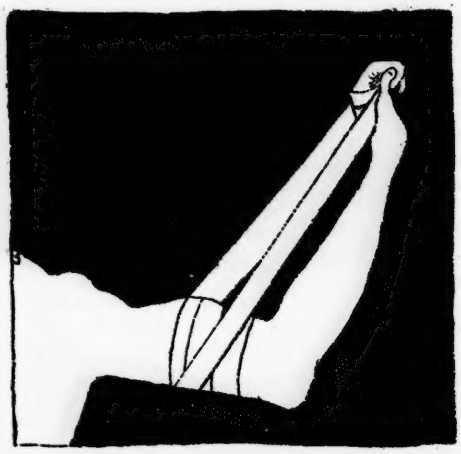

Fig. 4.—Method of securing extension of the wrist. The rubber bandage encircles the arm above the elbow and the hand around the palm.

Fig. 5.—Method of applying the rubber bandage to secure flexion of the knee-joint. The patient sits on a chair and the bandage encircles the ankle and the leg of the chair.

*The Wrist.*—For flexion: Flex the supinated forearm on the arm at a right angle. Secure the initial extremity of the rubber bandage by several unstretched turns transversely around the hand; carry the stretched bandage over the flexor surface of the forearm to the lower end of the arm and make a single unstretched turn around the arm just above the elbow. Return with the stretched bandage over the flexor surface of the arm to the hand, and repeat the application between the hand and the arm several times.

For extension: Flex the pronated forearm on the arm at a right angle. The stretched bandage is carried over the extensor surface of the forearm; otherwise the application is the same as for flexion (Fig. 4).

*For Finger and Thumb Joints.*—For flexion: Completely cover and include the hand in a rubber bandage, the applications over the dorsum of the hand being made with unstretched bandage, and those over flexor surface or palmar surface being made with stretched bandage, securing by unstretched turns around the wrist. This may be combined with bandages for mobilization of the wrist-joint as described above.

For extension: Apply the stretched rubber bandage around the fingers and around the projecting extremity of a suitable posterior splint.

These hand bandages may be applied in Dupuytren's contraction, after operative extirpation of the contracted cirrhotic palmar fascia, and should also be instituted as early as possible after cases of suppurative tenosynovitis to prevent and break up the adhesions between the tendons and tendon sheaths.

*The Knee-Joint.*—For flexion: A strong chair of a height such that the feet of the seated patient hang free of the floor is necessary. These conditions can be met

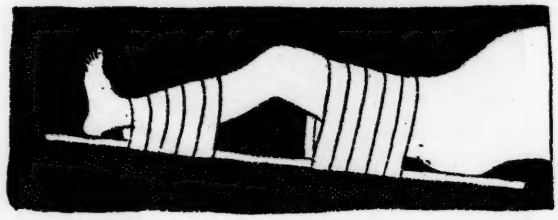

Fig. 6.—Extension of the knee-joint. With the limb on a long posterior splint held by loose gauze bandages, the rubber bandage is made to enclose the knee-joint and the splint, thus producing traction.

by the ordinary chair for an adult being placed on and at the edge of a firm table, box or platform. The patient is seated in the chair and secured by a broad bandage carried around the patient's body and back of the chair. A surcingle supplies the purpose very well. Fix the initial extremity of the rubber roller by several unstretched circular turns around the leg just above the ankle; carry the stretched bandage to and around the lower end of the corresponding leg of the chair, and back again to the starting place. Repeat the applications with stretched bandage several times (Fig. 5).

For extension: The method by pulley and weight is usually superior to the application of rubber bandage with a posterior splint, and is always to be used in cases of extreme contraction. When the flexion is slight and approximates the complete extension, the rubber bandage method is of value. Application: With the limb on a long strong posterior splint held by loose gauze bandage, place the initial extremity of the rubber roller at the lower end of the thigh just above the knee-joint, and fix by making one or two circular turns over the thigh, and around and including the posterior splint. Repeat the turns a half dozen times with the rubber bandage on the stretch. Repeat the same rubber bandage at the upper end of the leg just below the knee (Fig. 6).

I wish to give full credit to Momburg of the Bier Clinic, Berlin, for originating the idea of making use of the rubber bandage in the mobilization of joints.

704 Pillsbury Building.

# THE CONTROL OF PASTEURIZATION*

GOTTFRIED KOEHLER, M.D.
Assistant Commissioner of Health
AND
F. O. TONNEY, A.B., M.D.
Director of Municipal Laboratory
CHICAGO

The proper control of milk pasteurization is highly important at the present time—not only to the sanitarian and the public, but also to the conscientious milk-dealer.

Pasteurization as commonly practiced is the heating of milk to a temperature varying from 140 to 185 F. for varying periods of time. This heating may or may not effect the results intended, and the product consequently may or may not be free from the constituents which are intended to be removed or destroyed by the process.

Pasteurization has been lauded and condemned. The misunderstandings are based on the different meanings of the term with reference to the amount of heat applied, the time of exposure and the results accomplished. Practically, pasteurization is resorted to for two reasons: first, and very extensively, to enhance the keeping qualities of the milk. This is accomplished by destroying or materially reducing the number of acid-producing bacteria. Inasmuch as this kind of pasteurization is for commercial purposes the lowest temperature which will serve to accomplish the desired result is employed. Milk treated in this way is not usually rendered safe from a sanitary standpoint, but is nevertheless, often advertised and tendered to the public as germ-free and safe milk. The conception of pasteurization held by some men is that the process described above is intended when pasteurization is recommended as a means of procuring a safe milk-supply for large cities, or when pasteurization is accepted in lieu of testing cows for tuberculosis or of instituting adequate inspection of dairies for contagious diseases.

Secondly, pasteurization is resorted to as a means of securing a safe milk-supply that could not otherwise be procured in large enough quantity to supply our rapidly increasing urban populations. In this case the pasteurization must be controlled and cannot be carried out in the manner ordinarily practiced in a purely commercial way for the simple purpose of enhancing the keeping qualities of the product.

Municipal authorities are becoming more and more active in safeguarding of cities against frequently contagious and infectious diseases, and in this work have frequently traced such infections to the milk-supply.

The need of safeguarding milk-supplies is becoming more and more imperative by reason of the relatively low price of milk and milk products, which has compelled the farmer to practice intensive dairying in order to make the business at all profitable. This has reacted on the dairy cows. The animals have been kept with the prime object of minimizing loss of energy. Exercise in the open air has been sparingly allowed. In housing the proper means of ventilation and lighting have often been disregarded. With these essential conditions neglected the resistant forces of the overworked dairy cows have been materially lowered, and a field has been prepared for the spread of tuberculous infection.

The effort thus far made to eradicate tuberculosis in cattle has served to demonstrate very clearly that for the present at least the killing and disposing of all tuberculous animals is impractical. Compensation by the state for animals condemned and destroyed is in many sections impossible on account of the magnitude of the valuations involved. The segregation of the animals according to the Bang system necessitates the pasteurization of the milk, if it is to be used. This pasteurization, in order to be effective against the spread of tuberculosis, must be properly carried out.

Our efforts to inspect the dairy farms supplying our large cities, for infectious diseases, such as typhoid fever, scarlet fever, etc., are at present rendered ineffective by the concerted opposition of the dairymen, physicians in charge of the cases, and health officers residing in the rural communities.

It is certain that this factor of human contagion cannot be controlled in Chicago without increasing the present force of inspectors manifold. From a medical standpoint, it will always be difficult or impossible to recognize the prodromal stage of measles, incipient tuberculosis, abortive cases of scarlet fever, mild non-exudative cases of diphtheria, and especially the so-called typhoid carriers.

The only practical way to eliminate the spread of contagious diseases under present conditions seems to be the proper pasteurization of the milk; and here again improper pasteurization would serve merely to foster a false sense of security. If the public is to be safeguarded, it must be adequately safeguarded, and this means that pasteurization practiced for the purpose of destroying the disease-producing bacteria must be subject to control by health authorities.

In taking up the subject of control of pasteurization, due consideration should be given to the various kinds of standards which may be made use of. These for the purposes of this paper will be classified under the following three headings: (1) chemical standards; (2) physical standards, and (3) bacterial standards.

## CHEMICAL STANDARDS

Chemical standards have been suggested from time to time for control of the pasteurized product, but in practice they have not proved satisfactory. It is a well-known fact that milk heated above 176 F. fails to show the blue color when the Stork test for enzymes is applied. Our investigations have shown that the results obtained by this reaction are not very uniform and are dependent on a number of factors, including primarily the degree of temperature, and, to a certain extent, the time of exposure. Pjaden, working in the Kaiserliche Gesundheitamt, found that the amount of peroxidases on which this reaction depends varied considerably in the milk obtained from different breeds of cows. Finally, it is of great importance to recognize that certain bacterial products developing in consequence of bacterial multiplication in pasteurized milk have the property of transferring oxygen, and hence may be classed with the peroxidases. The other reactions for peroxidases, such as the guaiac test and the aloin test, are subject to the same influences and errors as the Stork reaction. Practically, then, the Stork test, or any test depending on the recognition of the peroxidases in the milk, is valuable only in determining that the milk has been recently heated above 176 F. It would of course also serve to detect all forms of boiled or sterilized milk.

The tendency at the present time, however, is to heat to as low a temperature as possible and only for a period such as will serve to kill all pathogenic organisms and a sufficient number of saprophytes, and at the same time

* Read at the annual meeting of the American Public Health Association, Milwaukee, Wis., September, 1910.

preserve the natural flavor and chemical composition of the milk. Exposure to heat above certain limits so alters the physical condition of milk that the cream does not rise naturally, but remains more or less completely emulsified. The public commonly judges the quality of milk by the amount of cream that has risen, especially in bottled milk, in which the cream line can be so clearly determined. Thus the demand to apply sufficient heat to destroy the peroxidases would necessitate the production of a pasteurized product of inferior commercial value, speaking of values as they are now appreciated. Such a demand would necessarily be harmful at the present time to the business interests of the dealer who is trying to place on the market a safe milk.

which 99 per cent. of the bacteria are killed when the required amount of heat is applied. After having determined either experimentally or theoretically the amount of heat required, it then becomes necessary to control this factor properly. This can be done most satisfactorily by equipping the pasteurizing machine with an apparatus regulating automatically the supply of heat or steam, so as to produce the required temperature of the outflow of the pasteurized product. Furthermore, a recording apparatus should be installed, to record during operation the temperature of the pasteurized product as it flows from the heater. The thermometer of this recording apparatus must be kept merged in the milk in such a way that it is not exposed

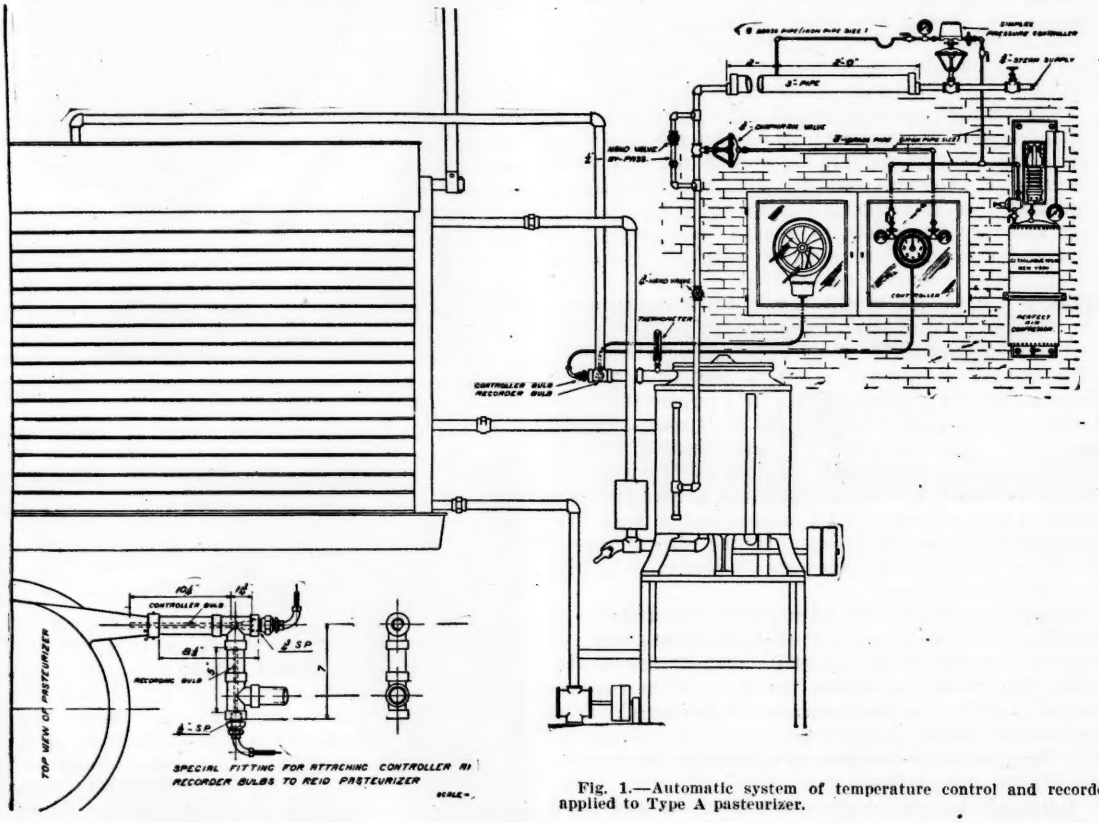
CONTROLLER BULB
RECORDER BULB
TOP VIEW OF PASTEURIZER
SPECIAL FITTING FOR ATTACHING CONTROLLER AND RECORDER BULBS TO REID PASTEURIZER

Fig. 1.—Automatic system of temperature control and recorder applied to Type A pasteurizer.

## PHYSICAL STANDARDS

Physical standards, such as the degree of temperature employed and the time of exposure are most valuable in properly controlling pasteurization. In the case of continuous or so-called flash pasteurization, the degree of heat to be applied should be made to conform to certain minimum theoretical temperature standards plus such additional heat as may be required to kill about 99 per cent. of the bacteria in the raw product, both of which requirements will be discussed later. We have found that the time of exposure varies so much and is so indefinite of determination in the different types of flash machines, that it is practically impossible to prescribe the required amount of heat for a given type without determining this experimentally. The pasteurizer so operated should be equipped with a feed-pipe, which is so constructed that the pasteurizer cannot be fed in excess of its normal working capacity; that is, in excess of the working capacity of the machine at

to escaping steam or any other sources of heat than the heated milk. The records of the recording thermometer are made in a closed chamber, which may be kept under lock and key in the control of the sanitary officer or superintendent of the establishment, as the conditions may require. Daily temperature records show more accurately the lesser degrees of fluctuation, while weekly records are more convenient in those cases in which it is necessary to keep the records under lock and key in control of the sanitary officer. Temperature records kept in this manner indicate to the sanitarian the degree of efficiency, and to the operator of the plant are a valuable means of obtaining more perfect and uniform pasteurization. Commercially, this means less sour milk and less complaint from dissatisfied customers.

Whenever a holding device is employed whereby the milk is held at the temperature of exposure for a longer period of time, the control by graphic records becomes

somewhat more difficult. The mechanism of the pasteurizer, or rather pasteurizing system, is more complex and of the two important elements, namely, the temperature and the time of exposure, the time of exposure is relatively difficult to control.

The temperature may be controlled by an automatic regulator and recording apparatus, as indicated for continuous pasteurization. The time of exposure, however, may be changed by changing the mechanism of the machine. Such changes can readily be detected by an inspector on the ground, but cannot be indicated by any simple graphic record, although practically such a recording apparatus could probably be constructed. Diagrams showing the construction of satisfactory temperature-regulating and recording devices are herewith appended.

a temperature of 71 C. or 160 F. for one minute is sufficient to kill the tubercle bacillus in milk.

For holding devices the heat requirements determined experimentally by Rosenau should guide us in determining the required time and temperature. Rosenau concluded from his experiments that tubercle bacilli and other pathogenic bacteria in milk lose their infective properties when heated to 60 C. (or 140 F.) and maintained at that temperature for twenty minutes, or to 65 C. (or 149 F.) for a shorter period of time.

The minimum temperature requirements usually set are, therefore, for the continuous type of pasteurizer, 160 F. for one minute; for the machine equipped with a holding device, 140 F. for twenty minutes.

The percentage reduction standard usually adopted is a 99 per cent. reduction in the bacterial content of

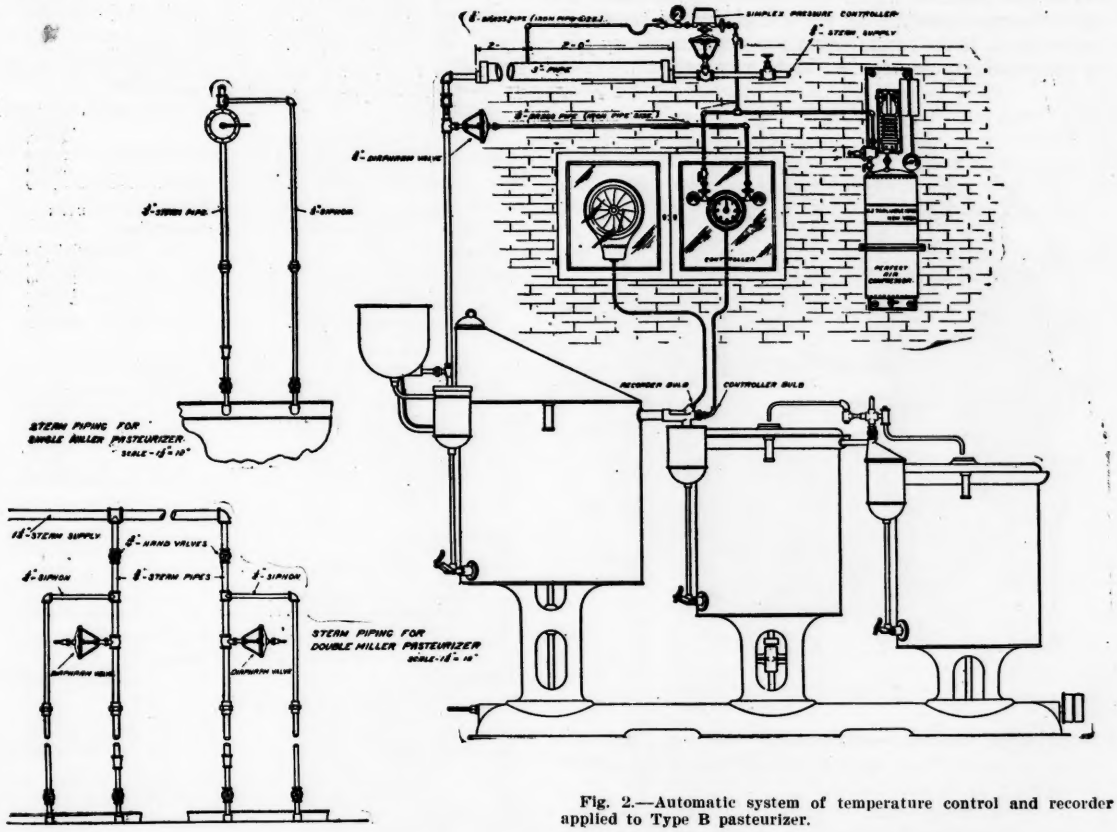
STEAM PIPING FOR SINGLE MILLER PASTEURIZER
STEAM PIPING FOR DOUBLE MILLER PASTEURIZER
RECORDER BULB
CONTROLLER BULB

Fig. 2.—Automatic system of temperature control and recorder applied to Type B pasteurizer.

BACTERIAL STANDARDS

Bacterial standards should be threefold: a minimum temperature requirement, a percentage bacterial reduction standard, and a maximum permissible bacterial count.

Temperature standards should be determined by the thermal death-points, so far as we have definite knowledge of them, of the ordinary pathogenic bacteria conveyable in milk. A safe guide in the case of flash pasteurization is the degree of heat and time required to kill the tubercle bacillus, since it is the most difficult of the ordinary pathogenic micro-organisms to destroy, and inasmuch as one cannot hope to destroy spores with pasteurization temperatures. For this type of pasteurization, therefore, we should be guided by the results of Russell and Hastings, who determined that exposure to

the raw product. This, however, is not applied strictly, but in conjunction with a minimum allowable count of 100,000 per cubic centimeter, it being recognized that it is perfectly possible to produce a satisfactory product from initially good milk without an absolute 99 per cent. reduction, and on the other hand that a 99 per cent. reduction in an initially bad milk may still contain too many bacteria for safety. The strict application of the 99 per cent. standard places a premium on the use of raw milk having an initially high bacterial content. This is of course undesirable and is readily eliminated by application of the double standard (percentage reduction in conjunction with minimum allowable count).

During the past six months some seventy pasteurizing establishments have been subjected to bacterial investi-

gation in the city of Chicago. A few representative results of these tests are here included.[1]

A study of the results of these seventy investigations reveals two interesting facts aside from the matter of temperature records. First, the percentage bacterial reduction under practical working conditions, as judged by the samples taken directly from the machine, is in general satisfactory for all five types of pasteurizers examined. Second, there is present in almost all establishments, irrespective of the type of machine used, a very constant and uniform element of recontamination. The significance of such recontamination may be considered from two angles, but depends in the last analysis on the extent to which it occurs. If the recontamination is extensive, it may mean practically the nullification of the work of pasteurization. In fact, instances have been noted in which the product of the plant contained more bacteria than the initial raw milk. On the other hand, if the recontamination is slight it may serve a very useful purpose, that is, it may be the means of

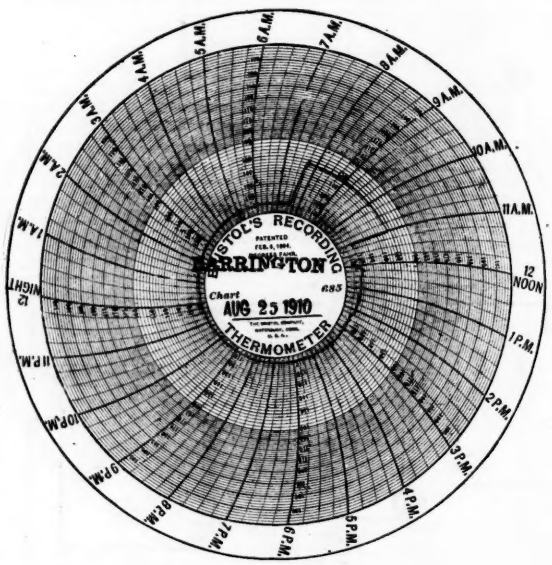


Fig. 3.—Graphic temperature record

introducing a few acid-forming bacteria, and thus improve rather than impair the quality of the product by causing it to sour naturally.[2]

If the bacterial count is sufficiently low to indicate a reasonable degree of safety from the standpoint of other bacteria, the reinoculation with acid-producers is of distinct advantage, inasmuch as it refutes the objection commonly raised that pasteurized milk putrefies when it is kept too long.

As a matter of fact, it is probably impossible in the control of pasteurization on a large scale to eliminate entirely the element of recontamination. Particularly

1. For complete tables, see reprints.

2. The fact that commercially pasteurized milk sours in the same manner as raw milk may be explained by one of two assumptions: (1) that there has been recontamination with acid-forming bacteria; (2) that a "resistant minority" of lactic acid bacteria has survived the heat of pasteurization. Ayers reports that a small percentage of the lactic acid bacteria may resist a temperature as high as 150 F., and also that one strain of *Streptococcus lacticus* had a thermal death-point of 168 F. (Bull. 126, U. S. Dept. of Agric., Bureau of Animal Industry). We are inclined to believe that the element of recontamination is the more important of the two, judging from the fact that samples taken from the pasteurizing machine proper do not usually develop acidity, while bottled samples taken from the same plants at the same time almost invariably develop about the same acidity as the raw samples.

TABLE 1.—BACTERIOLOGIC INVESTIGATIONS OF PASTEURIZING PLANTS IN CHICAGO, JANUARY TO JULY, 1910

PLANT 1.—TYPE A MACHINE—CONTINUOUS *
June—Temp., 160° F.; cooled, 45° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 1376 | Raw | 17,000,000 |
| 1377 | Pasteurized 160° F. | 8,700 |
| 1378 | From cooler 45° F. | 55,000 |
| 1381 | Bottled | 120,000 |

PLANT 6.—TYPE D MACHINE—CONTINUOUS †
August—Temp., 165° F.; cooled, 48° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 2860 | Raw | 650,000 |
| 2861 | Pasteurized from machine 165° F. | 4,500 |
| 2862 | Cooler 48° F. | 7,600 |
| 2863 | Bottle filler | 127,000 |
| 2864 | Bottle uncapped | 108,000 |
| 2865 | Bottle capped | 66,000 |

PLANT 7.—TYPE B MACHINE—CONTINUOUS ‡
April—Temp., 160° F.; cooled, 54° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 979 | Raw | 69,000 |
| 980 | Pasteurized 160° F. | 2,000 |
| 981 | Cooler 54° F. | 14,000 |
| 982 | Bottle uncapped | 16,000 |
| 983 | Bottle capped | 14,000 |

PLANT 11.—TYPE E MACHINE—HELD-TIME, 10 MINUTES §
March—Temp., 150° F.; cooled, 60° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 570 | Raw | 50,000 |
| 571 | Pasteurized 150° F. | 4,500 |
| 572 | Pasteurized, held 10 minutes | 2,500 |
| 573 | Pasteurized bottle filler | 3,200 |
| 574 | Pasteurized | 8,500 |

PLANT 19.—TYPE E MACHINE—HELD 20 MINUTES
March—Temp., 147° F.; cooled, 60° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 803 | Raw | 5,000,000 |
| 806 | Held in can 20 minutes | 22,000 |
| 807 | Cooler | 36,000 |
| 808 | Bottle uncapped | 77,600 |
| 809 | Bottle capped | 84,000 |

PLANT 21.—TYPE F MACHINE—CONTINUOUS ||
March—Temp., 150° F.; cooled, 45° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 734 | Raw | 450,000 |
| 735 | Pasteurized | 7,000 |
| 737 | Cooler | 10,000 |
| 738 | Bottler | 10,500 |
| 739 | Bottle uncapped | 8,600 |
| 740 | Bottle capped | 50,000 |

PLANT 21
May—Temp., 150° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 1240 | Raw | 1,900,000 |
| 1241 | Pasteurized 150° F. | 8,000 |
| 1242 | Cooler | 9,000 |
| 1243 | Bottle uncapped | 9,300 |
| 1244 | Bottle capped | 16,000 |

PLANT 32.—TYPE D MACHINE—CONTINUOUS
May—Temp., 162° F.; cooled, 42° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 1139 | Raw | 1,500,000 |
| 1140 | Pasteurized 162° F. | 2,200 |
| 1141 | Cooler 42° F. | 1,500 |
| 1142 | Bottler | 2,000 |
| 1143 | Can | 8,500 |

PLANT 35.—TYPE B MACHINE—CONTINUOUS
January—Temp., 164° F.; cooled, 50° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 98 | Raw | 701,000 |
| 99 | Pasteurized | 2,300 |
| 100 | From cooler | 6,000 |
| 101 | Bottled and capped | 10,000 |

PLANT 51—TYPE E MACHINE—HELD 20 MINUTES
August—Temp., 143° F.

| Serial No. | | Bacterial Count. |
|---|---|---|
| 2999 | Raw | 21,000,000 |
| 3000 | Pasteurized 143° | 56,000 |
| 3001 | Held 20 minutes | less than 1,000 |
| 3003 | Bottle filler | 18,000 |
| 3004 | Bottle uncapped | 16,800 |
| 3005 | Bottle capped | 17,900 |

PASTEURIZING MACHINES

* Type A.—A jacketed cylinder. Milk flows in at bottom, upward through center of cylinder and out at top. The jacket is filled with live steam.

† Type D.—Milk flows straight down over a heated cone.

‡ Type B.—A hollow cylinder with metal core. Milk flows in at bottom, upward in a thin stream between the core and jacket, and out at top. Heat is applied from outer jacket.

§ Type E.—Milk flows down in a spiral groove over a heated cone.

|| Type F.—A long trough in which hollow revolving disks are set at right angles to axis of trough. Disks are filled with steam. Milk flows along trough and is retarded by the disks.

Holding device may be attached to any of these types.

is this true when there are numerous small dealers to be covered who cannot afford the services of a bacteriologist. Nevertheless, it is obvious that this point should be closely studied and the effort made to reduce the recontamination to a minimum. It is of course a bacteriologic problem, and should be handled by a trained bacteriologist rather than by the ordinary milk inspector who has had little or no laboratory experience. That there is much recontamination still going on in Chicago is to be expected considering the fact that the work of pasteurization is at present in a transitional stage.

The control of conditions at the pasteurizing plant, however, is fairly simple compared to the control of the conditions under which pasteurized milk is marketed. In a large city, this feature of the work is necessarily difficult. It means the additional necessity of securing proper methods of cooling, of preventing the practice of selling kept-over samples, and of educating the entire milk-producing and distributing industry in the proper care of the pasteurized product. It involves the uprooting of old preexisting practices, which have been in vogue for years and are therefore extremely difficult to eradicate.

From a study of the accompanying monthly averages of the bacterial counts of raw milk, pasteurized milk from plants, and pasteurized market samples collected in Chicago, it appears that the general run of the pasteurized market samples is considerably higher than that of the samples from plants, and that in a general way the bacterial counts of market samples follow closely the temperature curve of the weather.

TABLE 2.—MONTHLY AVERAGES OF BACTERIAL COUNTS, JANUARY TO JULY, 1910

| January, 1910. | Total Examinations. | Average per c.c. | Per Cent. Below 500,000. |
|---|---|---|---|
| Pasteurizing plants | 41 | 40,700 | 100 |
| Pasteurized market | 112 | 277,800 | 84 |
| Raw | 64 | 1,067,000 | 45 |
| February, 1910. | | | |
| Pasteurizing plants | 41 | 213,000 | 88 |
| Pasteurized market | 155 | 938,000 | 69 |
| Raw | 61 | 1,768,000 | 46 |
| March, 1910. | | | |
| Pasteurizing plants | 80 | 334,000 | 85 |
| Pasteurized market | 154 | 1,580,000 | 45 |
| Raw | 17 | 1,664,000 | 35 |
| April, 1910. | | | |
| Pasteurizing plants | 36 | 124,000 | 94 |
| Pasteurized market | 120 | 694,000 | 78 |
| Raw | 43 | 5,948,000 | 70 |
| May, 1910. | | | |
| Pasteurizing plants | 39 | 79,700 | 95 |
| Pasteurized market | 76 | 1,273,000 | 63 |
| Raw | 61 | 4,892,000 | 57 |
| June, 1910. | | | |
| Pasteurizing plants | 28 | 371,000 | 75 |
| Pasteurized market | 66 | 1,492,000 | 53 |
| Raw | 44 | 4,507,000 | 25 |
| July, 1910. | | | |
| Pasteurizing plants | 74 | 185,000 | 95 |
| Pasteurized market | 129 | 3,106,000 | 49 |
| Raw | 588 | 12,235,000 | 19 |

During the month of January, 1910, the average bacterial count of market samples was 277,800 per cubic centimeter; in February, 938,000 per cubic centimeter. In March, which was an unusually warm month for this time of the year, the average rose to 1,580,000 per cubic centimeter. With the cool weather of April it fell to 594,000, and in the warmer months of May and June reached 1,273,000 and 1,492,000 per cubic centimeter respectively, while in the heat of July the average of market pasteurized samples reached the excessive figure of 3,106,000.

Obviously the control of the marketing of pasteurized milk in Chicago is still unsatisfactory, although it should be noted that the averages of this product are in every instance lower than those of the raw milk for the corresponding period, and that the percentage of samples, which may be considered reasonably safe (under 500,000 per c.c.) is much greater in the pasteurized series than in the raw.

The lesson to be drawn from the above figures is clearly that the temperature at which the product is delivered or sold must be subject to control, as well as the process of pasteurizing, if a safe market product is to be supplied to the consumer. This can probably best be attained by the passage of an ordinance establishing a maximum temperature, say 50 F., at which milk may be transported, sold or held for sale. Until such a measure is obtained in Chicago, it is manifest that there will continue to be undue multiplication of bacteria in the interval between pasteurization and delivery to the consumer, especially during the warmer months of the year. Such an ordinance has been advocated during the past few months—and is now scheduled to come up for passage during the fall of 1910.

A study of the more detailed monthly reports[2] from which the above-mentioned averages are derived is interesting in that it gives a better idea of the general run of the bacterial counts, and brings out more sharply the contrast between the raw and pasteurized series.

TABLE 5.—PASTEURIZED SAMPLES, FRESHLY BOTTLED AND ONE DAY OLD, TAKEN FROM PLANTS

| | | |
|---|---|---|
| 101 | Freshly bottled | 10,000 |
| 102 | One day old | 1,200,000 |
| 124 | Freshly bottled | 37,000 |
| 125 | One day old | 70,000 |
| 174 | Freshly bottled | 8,000 |
| 175 | Freshly bottled | 3,600 |
| 176 | One day old | 3,500 |
| 177 | One day old | 404,000 |
| 212 | Freshly bottled | 25,000 |
| 213 | Freshly bottled | 45,000 |
| 214 | One day old | 18,000 |
| 215 | One day old | 94,000 |
| 297 | Freshly bottled | 1,380,000 |
| 299 | One day old | 4,800,000 |
| 298 | One day old | 256,000 |
| 334 | Freshly bottled | 92,000 |
| 335 | Freshly bottled | 127,000 |
| 336 | One day old | 182,000 |
| 337 | One day old | 210,000 |
| 353 | Freshly bottled | 21,500 |
| 354 | Freshly bottled | 24,500 |
| 355 | One day old | 800,000 |
| 356 | One day old | 800,000 |
| 422 | Freshly bottled | 12,000 |
| 423 | Freshly bottled | 14,400 |
| 420 | One day old | 36,500 |
| 421 | One day old | 45,000 |
| 433 | Freshly bottled | 116,000 |
| 434 | Freshly bottled | 135,000 |
| 435 | One day old | 315,000 |
| 436 | One day old | 372,000 |
| 467 | Freshly bottled | 43,500 |
| 468 | Freshly bottled | 32,900 |
| 469 | One day old | 760,000 |
| 470 | One day old | 470,000 |

The detailed February report[3] of pasteurized market samples presents another important lesson which must be applied to the control of the marketing of milk, that is, the fact that many of the high bacterial counts in market milk occur as a result of the common practice prevailing in milk depots and retail stores, of selling left-over milk from the previous day's supply. This factor no doubt accounts for more of the high counts in pasteurized market milk than appears in the tables, inasmuch as it is not always possible for the inspector to obtain accurate information as to the age of bottled samples. Table 5, showing the bacterial counts of freshly bottled samples and samples one day old taken from pasteurizing plants, illustrates the extent to which bacterial multiplication occurs under ordinary practical conditions in the pasteurizing establishment proper.

3. For this, see reprints.

To meet this phase of the problem an ordinance has been proposed for passage, which requires that the date of bottling or pasteurizing shall appear on every bottle of milk, both raw and pasteurized, offered for sale in the city of Chicago. This measure, if it successfully passes the city council, will make it possible for the consumer to determine at the time of purchase whether or not a fresh product is being vended.

By way of comparison, in order that the progress already made in the direction of a purer milk-supply, may not be lost sight of, Table 6 is submitted showing the condition of the raw milk during the month of July, 1910. These samples were taken entirely from railroad platforms and represent the condition of the milk as it arrives in the city during the warmer weather. The urgent need of protection of the milk-supply is well emphasized by these results, the average of which reaches the enormous figure of 12,548,000 per cubic centimeter.

RAW MILK TAKEN FROM RAILWAY PLATFORMS, JULY, 1910 *

| Serial No. | Bacteria per c. c. | Serial No. | Bacteria per c. c. |
|---|---|---|---|
| 2187 | 240,000 | 2302 | 150,000 |
| 2188 | 7,850,000 | 2303 | 335,000 |
| 2189 | 74,000,000 | 2304 | 385,000 |
| 2190 | 6,800,000 | 2305 | 810,000 |
| 2191 | 3,350,000 | 2306 | 67,000 |
| 2192 | 8,200,000 | 2350 | 100,000,000 |
| 2193 | 54,000,000 | 2351 | 720,000 |
| 2195 | 8,100,000 | 2352 | 100,000,000 |
| 2259 | 11,000,000 | 2353 | 685,000 |
| 2260 | 35,000,000 | 2354 | 8,800,000 |
| 2261 | 13,400,000 | 2355 | 3,350,000 |
| 2262 | 40,000,000 | 2356 | 2,400,000 |
| 2263 | 5,200,000 | 2357 | 500,000 |
| 2264 | 4,200,000 | 2358 | 38,000 |
| 2265 | 100,000,000 | 2359 | 3,100,000 |
| 2266 | 145,000 | 2385 | 3,300,000 |
| 2267 | 10,000 | 2386 | 11,300,000 |
| 2268 | 21,700,000 | 2387 | 20,000 |
| 2297 | 1,550,000 | 2388 | 295,000 |
| 2298 | 54,000,000 | 2389 | 38,000 |
| 2300 | 2,700,000 | 2390 | 300,000 |
| 2301 | 300,000 | 2391 | 24,400,000 |

183 Samples; 12,548,000 average bacteria per c.c.

* A portion only of this table is given here; for complete table see reprints.

At the present moment, it cannot be justly claimed that pasteurization in Chicago is under satisfactory control. In fact, little more can be done in this paper than to point out a few important lessons, which are to be drawn from the experiences of the last eighteen months. Results as shown by the some 4,000 bacterial examinations made during the present year are not ideal. Nevertheless, it is our belief that there has been a sufficiently great improvement over the raw product formerly sold in the city to justify the effort which has been expended.

**Tumors in Cerebello-Pontine Angle.**—T. Schwartz reports in the *St. Petersburg. med. Wochenschrift*, January 14, the details of two cases in which the syndrome was apparently identical and typical of a circumscribed tumor in the cerebello-pontine angle. One patient died before the contemplated operation; the tumor in the other case was successfully removed at two sittings. Borchardt, who performed the operation, has compiled twenty-eight cases from the literature of the last two years with 50 per cent. recoveries. Schwartz states that his experience confirms the necessity for refraining from lumbar puncture in a case of a suspected brain tumor; in his first case although only 10 c.c. of fluid were released, intolerable headache followed and death occurred forty hours later, while removal of the tumor was being considered. In the two cases reported the Wassermann reaction was positive in the blood but not in the cerebrospinal fluid; necropsy revealed nothing suspicious of syphilis in the fatal case. The severe headache had improved and also the pulse under mercury and iodid in this case, evidently from the influence of the medication on the complicating hydrocephalus revealed by necropsy.

# INJURIES OF ABDOMINAL VISCERA WITHOUT EXTERNAL SIGNS OF VIOLENCE *

HENRY H. SHERK, M.D.
PASADENA, CAL.

Subcutaneous or non-penetrating injuries of the abdominal viscera are of such frequent occurrence, and their early diagnosis so important, that it is somewhat surprising that they are not recognized earlier in the majority of cases than is the rule at present. A study of the early symptomatology of these visceral lesions is therefore desirable.

I shall consider only those injuries resulting from external violence of such character as does not produce any surface trauma of the abdomen, or at least leaves only slight evidence of external injury. I shall also further limit my subject by excluding injuries of the urinary tract.

Penetrating wounds of the abdomen naturally point to and make easy, comparatively speaking, the diagnosis of associated visceral lesions. When the internal injury is not accompanied by external abdominal trauma the diagnosis is usually difficult. Damage to other parts of the body often diverts the attention of the physician and the patient and the less apparent early abdominal symptoms are overlooked. Unfortunately, there are no signs that are pathognomonic of visceral trauma. In some instances symptoms appear early, while in others manifestations of the injury are delayed for hours or even days.

Many cases have been reported in which, after having suffered gross injury to some of the abdominal viscera, the patient has worked on for hours at hard manual labor before succumbing. In other cases the severity of the symptoms is often out of proportion to the existing lesions. Intense shock, pain and excessive vomiting may accompany an injury of no moment. The following case illustrates this:

CASE 1.—A. H., aged 45, male, at 4 p. m., four hours after last meal, while prying up the root of a tree with a pick, wrenched himself when the root pulled loose. He did not fall and was not struck on the abdomen. Pain in the splenic region followed immediately. It was sharp and lancinating in character, increased rapidly and was accompanied by nausea and faintness. I saw him twenty minutes after the accident, sitting on the edge of his bed, bending over with his hands pressed against his stomach. His skin was pale, cold and clammy with perspiration; pulse was rapid but fairly strong; respiration short and shallow; temperature 97.6 F. He complained of intense pain in the left hypochondriac region. There was some tenderness in the same region, and marked rigidity of all the abdominal muscles, especially in the left upper quadrant. Peristalsis was quite active and he had vomited once. Leukocyte count was 6,950. All symptoms gradually subsided, rigidity disappearing first. By the next day he was feeling all right except for a little localized soreness.

Cases have been reported in which mistaken diagnoses, based on alarming symptoms, have led to unnecessary operations. Again, the resultant injury often bears no relation to the degree of violence that produced it. Severe visceral lesions may follow slight accidents, and *vice versa*. For these reasons any symptoms, no matter how slight, referable to the abdomen, should be given due weight in any case in which the patient has been subjected to external violence. In no other class of cases is an early diagnosis so necessary. In most instances it

* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

* For lack of space, an extensive table of cases is omitted from THE JOURNAL. It appears in the Transactions of the Section and in the author's reprints.

is life-saving. A delayed diagnosis nearly always means a fatal termination.

In discussing the subject I wish to consider the different elements wholly from the standpoint of their relation to the question of diagnosis, and shall take up:

1. The nature of the violence as a causative factor in the production of the injury.
2. The character and extent of the injury.
3. The symptomatology and diagnosis.
4. Deductions from a synopsis of cases collected from the literature.

As to the nature of the violence: Deaver's classification of the forces which cause injuries to the abdominal viscera as compressive, percussive and concussive, is sufficient. Each variety of violence tends toward certain forms of trauma. Therefore it is most important to ascertain, as definitely as possible, the exact details of the accident. How did the accident occur? Was the injured one's part in the accident active or passive? Was he struck by a rapidly or slowly moving, a large or a small, a hard or a soft object? Was the force great or slight? Was he crushed or run over? Did he fall from a greater or less height, or was he thrown some distance? What part of the body received the impact or the brunt of the violence?

Compressive or crushing violence, according to the way in which it is expended, may bruise, tear or rupture both the hollow and the solid viscera. When the violence is in the nature of a crushing force, a steady direct compression, the solid viscera can be crushed or torn, and the hollow ones can be torn, bruised or have their blood-supply damaged.

Compression applied over the abdomen in a progressive manner, as when the body is rolled in a narrow space between two objects, or run over by a heavy-tired automobile, may burst a loop of intestine. The solid or hollow organs may be torn loose from their supports in the same way. These injuries are possible also when the compression is produced by the forcible doubling up of the body, as in railroad accidents or when the subject, caught in a stooping or sitting position, is crushed by a heavy weight falling on his head or shoulders.

Extreme or violent muscular action can, under certain conditions, produce visceral injury.

By percussive violence we mean that received from the impact of a rapidly moving object. Horse kicks, a blow from a piece of wood thrown from a circular saw, or flying objects in an explosion, are examples of percussive violence. This form of violence may rupture the solid viscera and likewise the hollow organs, if they are distended at the time of the injury.

Both compressive and percussive force produce visceral trauma by direct violence.

When the impact of the violence is received on any part of the body other than the abdomen, visceral injury may result from concussion, or as one might say, by *contre-coup*, the force being indirect or transmitted. In this way the solid organs and the hollow viscera, when heavily loaded, can be torn loose at their point of attachment, the tears often extending into the substance of the organ. The following case illustrates the results of concussive violence:

CASE 2.—R. T., aged 28, male, at 11 p. m. was thrown from a rapidly moving automobile, was struck on his shoulder but not run over; was able to crawl to the street curb and vomited before he reached it; was brought home in a state of collapse and was unconscious for two hours. He was ashy pale and vomited persistently. He complained of great pain in the upper abdomen and gave all the evidences of shock. There were bruises on the head, right shoulder and on the back near the right hip, none on the abdomen.

I was called in consultation the fourth day, two hours before death. The man was almost moribund and gave all evidences of profound general peritonitis. He had facies abdominalis to a decided degree. The abdomen was distended to its fullest extent and was tender all over. There was an entire absence of peristalsis. The liver dulness was obliterated and there was some dulness in both flanks, but the patient's condition did not allow me to determine if it was movable or not. The pulse was rapid and thready, about 140, temperature over 102 F.; respirations were shallow. The patient complained of great general pain and had vomited recently, what the doctor called stercoraceous matter. I was allowed only a partial post-mortem examination. No bruises or ecchymoses on the abdomen. The abdominal cavity was full of fluid blood and clots and there had been general peritonitis. There was a tear, about an inch and a half long, in the liver along the falciform ligament. I could find no other lesion.

Sometimes the mere forcible jolting or jarring of the solid viscera causes rupture of their substance. This is more likely to occur if the organ is enlarged or softened by any morbid state. Wind concussion from explosions is another possible source of visceral injury.

Certain circumstances tend to lessen the liability to intra-abdominal injuries from external violence. The amount of clothing will sometimes soften the force of the blow, and at least prevent the occurrence of any surface traumatism. A fat abdominal wall will lessen the liability to injury from percussive force, while it might increase the danger if the force was either compressive or concussive.

CASE 3.—R. B., aged 62, male, weight about 200 pounds, railroad superintendent, at 6 p. m., six hours after eating, accidentally fell or slid from the seat of a farm wagon. He dropped forward on the flank of the near horse, striking on the left lower ribs and upper abdomen. He fell only about three feet and struck against the rounded soft rump of the horse, and then slid off to the ground, landing on his knees. He was helped up and carried to the nearest house, a few rods away. He complained of intense pain in the region of the stomach. The doctor who saw him thirty minutes later found three lower left ribs fractured posteriorly and gave morphin to relieve pain in the upper abdomen. There were no marks of violence on the surface of the abdomen.

I first saw the man at 4:30 p. m. the following day, twenty-two and one-half hours after the accident. He was then lying on his back, slightly propped up in bed, with his knees drawn up. The expression on his face was anxious and indicative of suffering. The respirations were shallow and rapid; the pulse could scarcely be counted; temperature was subnormal. He was still vomiting and the abdomen was much distended and rigid. There was total absence of peristalsis. Great irritability of the bladder and constant desire to urinate were present. The patient's mind was slightly clouded, but he would rouse up enough to answer questions. There was great restlessness, with constant moving of the hands and arms. I made a diagnosis of rupture of the spleen and advised an immediate operation. Sudden collapse occurred soon after and the patient died before anything could be done, twenty-four hours after the accident. I was allowed to make a post-mortem examination of the abdomen only. The abdominal cavity was full of fluid blood and clots. There were two ragged tears near the upper border of the spleen. Death was due to hemorrhage.

I am sure that the weight of the patient and his fat abdominal wall influenced materially the results of what otherwise would have been an accident of no moment.

If the abdominal muscles are contracted and rigid in anticipation of a blow, as in athletic contests, the viscera are less likely to be injured than if the violence is unexpected and the abdominal wall is relaxed and soft.

The likelihood of internal injury being caused by external violence is materially influenced by the con-

dition of the viscera themselves. The presence of morbid conditions in any organ greatly increases its liability to injury. An enlarged viscus, by its increase in size and weight, offers, as one might say, a larger target. A congested or softened spleen, or an inflamed and edematous intestine, is much more easily torn than a normal one. Adhesions resulting from previous inflammations, by abnormally fixing any organ, may increase its liability to injury from violence. One of my own cases is illustrative:

CASE 4.—D. R., aged 61, male, dairyman, with history of having been gored in the abdomen by a bull twenty years previously, about 4:30 p. m., four hours after last meal, was stooping over to bandage a horse's leg and received a kick on the shin. As he straightened up he was squeezed between the horse's flank and the side of the stall, the abdomen receiving the brunt of the violence. When helped to his house a few minutes later he complained of great pain in the lower abdomen, over and above the bladder. He was nauseated but did not vomit. He looked ashy pale and the skin was cold and clammy. When first seen, about half an hour after the accident, he was lying still with his legs flexed. He complained of intense pain in the lower abdomen and of feeling chilly. There was marked general rigidity of the abdominal walls and the greatest tenderness was in the left lower quadrant. No dulness could be demonstrated. Peristalsis was absent and there was irritability of the bladder. The patient still gave some evidence of shock, but the pulse was of fair quality and its rate only slightly increased. Respirations were short and shallow. A diagnosis of probable visceral injury was made, and immediate exploratory operation was advised but refused. The patient could not pass urine and was catheterized. The urine was negative and contained no blood. Nausea continued, followed after ten or twelve hours by vomiting. Absence of peristalsis persisted and there were no bowel movements. Abdominal distention commenced in four or five hours. The pain over the bladder steadily increased. By 8 o'clock next morning, about sixteen hours after the accident, the pulse was 115 to 120 and thready, and the temperature was over 100 F. The abdomen was much distended, tender and rigid. Death occurred about fifty-six hours after the accident.

Post-mortem examination, made by Dr. Stanley P. Black, disclosed general peritonitis with extravasated intestinal contents. The intestines were more or less adherent from inflammation following the accident of twenty years previous. On the right side an adherent loop of the small intestine had been torn at the point of adhesion, an opening slightly over 1 inch in length being present.

A stomach distended with food, fluid or solid, or with gas, is more easily bruised or torn than an empty one. Therefore the relation of the time of the last meal and stool to the time of the receipt of the violence is of importance.

The part of the body impinged on, when violence is received, materially influences the nature of the resulting injury.

If the blow is delivered on the lower abdomen, injury to the small intestine, sigmoid or caput coli, may be suspected. Blows on the upper abdomen are not apt to injure the intestine unless received in the middle line and so directed as to crush the intestine against the spine, in which case the omentum and mesentery are also frequently involved. Violence received in either loin offers little danger to the intestines, except possibly the colon or duodenum, on account of their more fixed relations.

Force applied to the upper abdomen in the middle or on either side, as well as when delivered in the lumbar region, may injure the liver, spleen or pancreas.

Violence, of a crushing or gliding nature, delivered on the abdomen, too high for the intestines or too low for the liver or spleen, most frequently injures the mesentery.

A blow over a hernial sac, containing an intestinal loop, is often productive of injury to the intestine.

The character and extent of the injury to the viscera will depend on the nature and degree of the force, its application and the condition of the abdominal contents at the time of the accident.

The injury may be in the nature of a contusion, a crushing of the tissues, a tearing or a rupture of any of the viscera or their supports and attachments. It will also vary according as the organ affected is hollow or solid.

The damage may be direct and immediate to the organ itself, or it may be indirectly caused by injury to the blood-supply of the viscera affected.

The extent of the lesion will vary greatly. It may range from a slight bruising or abrasion of the peritoneal covering of the part affected to an extensive laceration of the substance, or even more or less complete disintegration of the whole of the viscera involved.

The state of the abdominal walls and the condition of the abdominal contents materially influences the degree and extent of the injury.

In considering the nature of these abdominal injuries, it is well to take up the different organs separately, dividing them into two main classes, the solid and the hollow viscera.

The solid viscera may be bruised, crushed or torn. A rupture of a solid organ is practically the same as a tear, except as to the mechanism of its production.

According to most authorities, the liver is the most commonly injured of the solid viscera, except, of course, the kidneys, which I am not considering, but in the accompanying series of cases collected from the literature, injuries of the spleen outnumber those of the liver. The liver may be crushed when the compression force is severe and applied directly over the region of this viscus, but this form of injury is not so common as the tears resulting from indirect violence, in which case the rents occur at or near the attachment of the supporting ligaments. Another form of tear is practically a rupture of the liver tissue resulting from extreme jarring or shaking of the organ. This is more apt to occur if the liver is enlarged or softened.

The spleen is subject to the same traumatisms as the liver, except that rupture of the splenic pulp is, by far, the most common form of injury to this organ. The spleen is so much smaller and lighter than the liver that it is less likely to have tears in its substance resulting from traction on its supports. Its small size, deep-seated position, and its surroundings, also afford greater protection against direct crushing.

The enlarged spleen is much more liable to injury than a normal one. Consequently splenic injuries are more common in tropical or malarial countries. According to Cantlie, most of the tears or ruptures of the spleen occur on its inner surface, especially when the organ is enlarged, owing no doubt to the fact that the outer surface is tougher than the inner one. "A spleen can therefore have its inner surface ruptured by a blow on the abdomen over the splenic area, without any evidence of injury on its outer surface." This is due to concussion.

The normal spleen is most likely to rupture at the height of its functional activity, *i. e.*, some hours after eating.

Traumatism of the pancreas seldom occurs and is usually associated with injury of other organs.

The omentum and various mesenteries can be torn, bruised or crushed, but an injury to them is generally

associated with corresponding traumatism to the intestine or other organs.

In women it is always well to remember the possibility of rupture of ovarian cysts or ectopic gestation sacs.

The hollow viscera liable to injury are the stomach, intestines, gall-bladder and ducts, the thoracic duct and the large blood-vessels.

The stomach may be torn in any of its parts, but the most common seat of injury is near the pyloric end. The tears may be small or extend completely across the stomach. When the latter occurs, it is always at the pyloric end (Deaver). The stomach is so well protected by its surroundings that it is seldom injured except when distended with food or gas, and in most instances injury of the stomach is associated with trauma of the liver or other viscera.

The intestines may be torn, crushed or ruptured. The injury may be slight or extensive, single or multiple, and may involve any portion from the pylorus to the rectum. The more fixed parts of the small intestine are most frequently affected, the upper end of the jejunum and lower ileum furnishing about 75 per cent. of all intestinal injuries, the duodenum nearly 5 per cent., the large intestine a little over 3 per cent., while 17 per cent. covers other parts of the small intestine. The extent of the rupture or tear is generally in proportion to the degree of violence.

When the intestine is crushed or torn by traction on its fixed points, the tear may be large. When it bursts from localized hyperdistention of one of its loops, resulting from external compression, the perforation in the inner coat is generally small and round, while the peritoneal coat is torn to a much greater extent, just as is seen in a blow-out of an automobile tire, the inner tube showing only a small opening while the outer casing is ripped open for several inches.

Tears and contusions of the intestine generally occur near its mesenteric attachment, while ruptures are usually found opposite the mesentery. When a loop of intestine, contained in a hernial sac, is injured, the lesion is apt to be single and in many instances the damaged intestine, as soon as it is relieved of its distention by leakage of gas and fecal contents, drops back into the abdominal cavity, leaving the hernial sac soiled with the extravasated matter.

Rupture of the gall-bladder or of the bile ducts is rare, occurring most frequently in the presence of stones or some prior pathologic condition of these viscera, and is almost always associated with trauma of the liver. According to Deaver the cystic duct is the part most commonly affected.

As it is an accepted fact that an early diagnosis is absolutely necessary if anything is to be done in these cases, the symptoms of the first few hours are the important ones. The later manifestations, coming on when the patient is beyond relief, are so easily appreciated that a discussion of them is not needed. I shall therefore confine myself, as much as possible, to the consideration of these earlier signs.

The fact that the symptoms vary so much and that none is constant, makes an early diagnosis, in most cases, a matter of extreme difficulty. In many instances it is practically impossible. For these reasons a diagnosis of suspicion or presumption should be adhered to until the element of internal injury can be positively eliminated.

Unfortunately, the severity of the early symptoms does not always correspond to the degree of injury. An extensive trauma may be followed by only slight primary manifestations. On the other hand, injuries of much less degree are often associated with a display of most alarming symptoms.

The train of symptoms is really governed more by the nature than by the degree of the trauma. In injuries of the solid viscera shock and signs of hemorrhage predominate, while a tear of the intestine or stomach is followed, more or less quickly, by the evidences of peritonitis. Where the intestine is simply bruised, without any perforation of its coats, or its mesentery injured the peritonitis may not develop until a necrosis permits leakage of its contents.

Pain is probably the most important symptom; not that it is the most constant or dependable one, but because it is generally the first and because it is the symptom that appeals most to the patient and influences him to apply to a physician for help. Unfortunately, it is often very slight and does not last long. It may be immediate or not appear for hours. Its relation to the degree of trauma is not a constant one, often being present in inverse ratio to the amount of injury. The character and severity of this symptom varies greatly. It may be slight or intense and agonizing. It is not like the pain of the ordinary functional or inflammatory abdominal troubles, but is like the pain that accompanies ruptured extra-uterine pregnancy, sharp and lancinating, as if something had given away or torn loose. It is often described by the patient as deep-seated and radiating. It is the pain of torn peritoneum and not that of inflammation, which appears later. The degree of the initial pain is often much influenced by the amount of shock present. In extreme shock the patient often makes but little complaint of pain, but as reaction sets in and the shock lessens, appreciation of his suffering becomes more evident.

The initial pain is generally localized, either at the site of the injury or at some point more or less distant, even beyond the region of the abdomen. The secondary or inflammatory pain follows the course of the extravasated blood or visceral contents, and as a rule is more generalized. Therefore this initial pain is important only as it calls our attention to the fact that an injury has occurred and that it may, by its location; indicate the probable site of the injury.

Next to pain, shock, varying in degree, is the most common accompaniment of intra-abdominal injuries. Like pain, it does not bear a constant relation to the gravity of the injury, but generally speaking the greater the injury the more profound the shock. The mere presence or the amount of initial shock, *per se,* is of no real diagnostic value and if profound often obscures rather than helps to make a diagnosis. Contrary to this, its progress or course is of the utmost import from a diagnostic and prognostic standpoint.

Rupture of hollow viscera is likely to be associated with early and deep shock, from which the patient rallies, except in the few instances in which the nature and extent of the injury is sufficient to cause death quickly. On the other hand, lacerations of the solid organs, in which hemorrhage is the cause of the symptoms, produce shock, which though slight at first steadily increases as the hemorrhage continues.

Progressively deepening and secondary shock are most serious manifestations.

Nausea and vomiting are often early symptoms, but as a rule do not appear until a short time after the occurrence of the accident. Early vomiting is not of much importance, but persistent or late vomiting is usually indicative of serious injury. The quality of the vomitus

will sometimes aid in diagnosis. The presence of blood in it will indicate trauma of the stomach or duodenum, but its absence will not exclude injury of these viscera. In large tears of the stomach vomiting is likely to be absent, or if present may or may not contain any blood.

Tenderness, either local or general, is commonly found. If early it is usually quite marked over the seat of the visceral injury. Later on when peritonitis intervenes, after rupture of the stomach or intestines or following marked hemorrhage, the tenderness, together with the pain, becomes general or may appear at a point quite distant from the site of the injury.

Another symptom closely associated with tenderness is rigidity. This may vary from a slight local stiffness or tenseness of the muscles to a board-like rigidity of the whole abdominal wall. This condition, in degree, bears a more definite relation to the amount or seriousness of the internal injury than any other manifestation. As a rule it occurs early and from that standpoint, although it may last only a short time, is of the utmost importance in helping to a timely diagnosis. When localized it bears a general relation to the site of the injury and often, in the absence of other leading symptoms, indicates the part of the abdomen to approach in operative procedure. Where there is general rigidity close observation may distinguish a greater resistance in some one part than in others. A board-like rigidity of the whole abdominal wall, when associated with shock, vomiting and pain, following any form of external violence, is always to be taken as presumptive testimony of serious injury. According to Deaver the so-called "checkerboard" abdomen is almost pathognomonic of grave intra-abdominal lesions.

Some rigidity may be present with bruising of the abdominal walls, but it does not progressively increase. Usually it is not apparent under light palpation, appearing only when pressure is made on the bruised and tender muscle.

Distention is generally a late accompaniment of trauma of the abdominal viscera. When it appears early, to any extent, it usually means gross injury with extensive extravasation of intestinal contents, both fluid and gas. The distention that appears later and comes on gradually is the result of intestinal paralysis, the earliest sign of which is lessening or cessation of peristalsis. This diminished or absent peristalsis is, to my mind, one of the most important signs that we have, though in the cases reported and in the articles written on this subject it is rarely mentioned, but one or two writers laying any stress on it. I think I place more dependence on it than on any other symptom, not only in the class of cases under consideration, but in the matter of diagnosis of all acute inflammatory and accidental troubles of the abdominal cavity, whether of internal or external origin. I think auscultation is as important as an aid to diagnosis in abdominal diseases as it is in those of the chest, and yet I know of no other means of examination that is so universally neglected. O. C. Gaub of Pittsburg has shown experimentally that peristalsis is obliterated very quickly, after a blow on the abdomen, to return inside of a few hours if the resultant injury is not serious. He reports some cases, in which operation was performed in the presence of peristalsis, other symptoms indicating visceral trauma, in which no injury could be found. Claybrook also emphasizes the importance of this symptom.

Early aperistalsis may only indicate that the abdomen has received some shock or violence, and does not necessarily show that an injury has been done, but if three or four hours after the violence, when reaction has taken place, there is still silence on auscultation and this condition persists, it is almost conclusive proof that the injury is of some moment. When aperistalsis recurs, or when it commences some hours after the receipt of the injury, it is always indicative of serious trouble. It appears more promptly and is more complete and persistent with perforations of the intestines than when associated with other visceral lesions.

Dulness on percussion is not a very dependable sign. If a movable area of dulness can be positively demonstrated, it is good proof that a quantity of fluid, blood or intestinal contents, is free in the peritoneal cavity. But a moderate amount of gaseous distention will obscure it and fresh adhesions will prevent the movement of the fluid when the body position is changed. The absence of liver dulness, asserted by some to be almost pathognomonic of intestinal perforation, is certainly deceptive.

The expression of the patient's face is of prime importance; the so-called facies abdominalis is a frequent accompaniment of serious visceral lesion. It is not a part of the symptom-complex of shock and, as a rule, does not appear until reaction sets in. It is rarely absent, but it may be present to only a slight degree. It is practically always absent when the injury is trivial. The expression is one of distress and anxiety, as if the patient were conscious of impending danger.

Early restlessness is common, especially when the amount of shock is slight. On the other hand, the patient lies quietly if there is profound shock, or, when, later, the peritoneum is inflamed. A reclining posture is generally assumed, the patient lying on his side with the thighs flexed, or he may sit up, leaning forward, with the knees drawn up toward his chin.

Thirst is quite common, especially when there has been much hemorrhage. In a few cases bowel movements occur early, but when the injury is of any extent, especially when the intestine is involved, the paralysis of the intestine precludes all possibility in that direction. A movement containing blood, if it does occur, may be of some value, according to the nature of the blood, in determining the location of the intestinal injury.

Irritability of the bladder is a common and moderately early symptom, commencing as soon as the pelvic peritoneum is irritated by the presence of a quantity of blood or infected by escaped bowel contents. It is in reality one of the earlier manifestations of a commencing general peritonitis, septic or otherwise. The urine in most instances will be negative unless the bladder or kidneys are involved, therefore its examination is useful only in eliminating the question of injury to these organs.

The temperature and pulse are those of shock, internal hemorrhage or peritonitis. The initial temperature is apt to be subnormal, rising as reaction sets in and going above normal with the development of peritonitis. An early, rapid and marked rise of temperature following abdominal injury is suspicious of intestinal rupture and leakage. A secondary fall of the temperature, to below normal, is indicative of serious trouble (Le Conte).

The pulse is variable, rapid, weak and thin if there is much early hemorrhage associated with shock. A pulse, of good quality at first, steadily losing in strength and quality, indicates progressive hemorrhage. According to Le Conte, a steadily rising pulse, after reaction has taken place, is a bad sign, but it must be associated with other symptoms to be alarming.

Dirt marks and tears of the clothing are of value, as are also superficial bruises, in determining the nature of the violence and its point of impingement, and should

always be investigated, for, in the absence of a definite history of the accident, either may be the decisive factor.

While an accurate or differential diagnosis is not essential, still it is desirable, to say the least. What is essential, however, is the ability to recognize that certain combinations of symptoms are presumptive of pathologic conditions which, if left to themselves, will jeopardize the life of the patient. It is not necessary to say that the intestine is torn or the spleen ruptured to be justified in advising operative treatment. To know, however, that some viscera has or has not been injured enough to necessitate operation is what is demanded.

A careful study of the initial symptoms, the character of the violence, and the part of the body receiving the force, should indicate the region of the abdomen containing the injured viscera.

A differential diagnosis, other than a presumptive one, is an extremely difficult matter, but certain symptoms when present are of differential value.

As stated before, an early appearance of signs of peritonitis is indicative of injury to a hollow viscus, while symptoms of hemorrhage point to trauma of one of the solid organs. In the latter case peritonitis is generally a late manifestation.

In rupture of the pyloric end of the stomach or of the duodenum the initial pain will be epigastric, but a little later is apt to be referred to the right side in the region of the appendix, as has been pointed out by Moynihan, in duodenal perforation from ulceration.

When the tear is near the cardiac end the pain will be more on the left side, gradually becoming lower as the extravasated stomach contents gravitate along the descending colon. If the tear is in the posterior wall the leakage is into the lesser peritoneal cavity, the resulting peritonitis is limited, and the accompanying pain is also more or less localized. The local pain of a ruptured stomach is often described as gnawing or burning in character.

In ruptures of the intestines the primary pain is usually local, but quickly becomes general. The lower in the intestinal tract the perforation occurs the more intense will be the peritonitis.

An empty condition of the stomach and intestines defers the appearance of peritonitis. When necrosis of the intestine follows injury to its mesentery, the sudden onset of symptoms, accompanying perforation, frequently occurs just after the ingestion of food.

The obliteration of peristalsis is one of the most important signs of perforation of the intestines or stomach. It is a most constant symptom and rarely absent.

The primary symptoms of injury of the mesentery are those of hemorrhage.

The pain of liver injuries is more or less influenced by anything which involves movement of the diaphragm, especially when it is sudden or excessive. It is intensified by hiccoughs and vomiting. Inspiration increases it and accordingly respiration is embarrassed. The pain is often referred to the right shoulder.

In injuries of the spleen precordial pain is often present and sometimes the pain is referred to the left shoulder. Air hunger and shortness of breath are prominent. Ballance's sign, dulness movable on the right side but not on the left, due to the formation of clots near the spleen, may be present when the splenic hemorrhage is slow.

When the pancreas is ruptured, torn or crushed, the hemorrhage or fluid accumulating in the lesser peritoneal cavity may create a cyst-like tumor. The pancreatic secretion induces peritonitis very quickly. The early presence of sugar in the urine is suggestive of pancreatic involvement.

The symptoms of rupture of the diaphragm are those of diaphragmatic hernia, but as the former is ordinarily associated with trauma of other viscera, its manifestations are obscured and it is practically never recognized before operation or autopsy. However, the signs of pneumothorax following an abdominal injury, when the usual causes of air in the pleural cavity can be excluded, point to a possible tear in the diaphragm. Hiccough also suggests injury to the diaphragm.

Rupture of aneurysm of the abdominal aorta or of any of the blood-vessels produces symptoms practically similar to those of rupture of the stomach, but in most instances death follows quickly. If the rupture of the vessel is not complete and a traumatic aneurysm is produced, the symptoms, although intense at first, do not progress as when the stomach or intestine is torn. The signs of peritonitis are lacking.

I have collected reports of some 350 cases of subcutaneous injuries of the abdominal viscera. Of these only 290 were available, as the rest were so lacking in details as to be of no use whatever. I have used those cases only in which actual visceral injury was either verified or disproved by operation or post-mortem examination. Of those tabulated* only a small proportion contained sufficient accurate data on which to base any deductions. Most of them were inaccurate and indefinite. Fully 20 to 25 per cent. did not mention or were indefinite as to the time of operation after the accident. About 2 per cent. left one in doubt as to whether the patient lived or died.

In the following figures I have added, to the 290 tabulated cases, three of my own reported in this paper. The causes of injury were as follows:

Explosion, 1; strain, 4; blows, 86; kicks, 51; run over, 38; falls, 53; thrown, 15; crushed, 42; not stated, 3.

The intestine was affected 181 times; liver, 22; spleen, 45; pancreas, 25; omentum or mesentery, 14; diaphragm, 5; ovarian cyst, 1.

Pre-operative or antemortem diagnosis was stated as made in 101 out of the 293 cases. Of these 101 diagnoses 28 were general, 17 were probable, 38 were accurate and 18 were wrong.

Of the 18 incorrect diagnoses, most were wrong as to the nature or location of the injury and not as to the fact.

In 9 cases the reporters frankly stated that no diagnosis was made, while in 183 cases the matter of diagnosis was not even mentioned. It is to be presumed that a diagnosis was not made in these cases.

In percentages, no diagnosis, 65.5 per cent.; wrong, 6.1 per cent.; probable or general, 15.4 per cent., and accurate or correct, 13 per cent.

One hundred and thirty-two patients died, 155 recovered, and the results were not stated in 6. They were divided as follows:

TABLE 1.—OUTCOME OF CASES

| | Intestine. | Liver. | Spleen. | Pancreas. | Omentum and Mesentery. | Diaphragm. | Ovarian Cyst. |
|---|---|---|---|---|---|---|---|
| Died | 94 | 11 | 10 | 10 | 2 | 5 | 0 |
| Recovered | 82 | 11 | 34 | 15 | 12 | 0 | 1 |
| Not mentioned | 5 | 0 | 1 | 0 | 0 | 0 | 0 |

Of the 293 patients 257 were operated on and 36 were not operated on.

Of the 36 patients not operated on all died.

Of the 257 operated on 96 died, 155 recovered and the results in 6 were not stated.

*As stated in the introductory footnote, the table is here omitted.

TABLE 2.—LENGTH OF TIME WHICH ELAPSED BETWEEN RECEIPT OF INJURY AND OPERATION

| Operation following injury. | Total Cases. | Died. | Result Recovered. | Result Not Stated. |
|---|---|---|---|---|
| Within the first 6 hours | 64 | 15 | 48 | 1 |
| In the second 6 hours | 36 | 12 | 24 | .. |
| In the third 6 hours | 29 | 14 | 13 | 2 |
| Over 18 hours | 78 | 35 | 42 | 1 |
| Indefinitely stated but presumably early | 13 | 7 | 6 | .. |
| Time not stated | 37 | 13 | 22 | 2 |

In injuries of the intestines the mortality of the patients operated on in the first six hours was 20 per cent.; the second six hours, 35 per cent.; third six hours, 56 per cent., and over eighteen hours, 66 per cent. Of the liver, first six hours, 71.5 per cent.; second six hours, 50 per cent.; over eighteen hours, the mortality was *nil*. Of the spleen, first six hours, 8.6 per cent.; second six hours, 40 per cent.; over eighteen hours, only 16.6 per cent. Early and late operations for injuries of the pancreas resulted in 29 per cent. and 33.3 per cent. mortality, respectively.

No definite conclusions can be reached as to the frequency of the various symptoms, as the majority of the cases were so indefinitely reported.

In the following figures I refer only to the symptoms of the first few hours:

In the reports of 265 cases pain was mentioned 182 times; as decided pain in 147 cases, slight in 29 and absent in 6; it was not mentioned in 83 cases.

Shock was mentioned 94 times; severe in 46, mild in 31 and absent in 17; not mentioned in 171 cases.

Rigidity was mentioned 159 times; marked in 125 cases, slight in 20 and absent in 14 (in about half of the 14 it appeared as a later manifestation); it was not mentioned in 106 cases.

Peristalsis was only mentioned in 5 instances; absent 3 times and present twice; in the two latter cases operation disclosed no trauma.

A study of these statistics will show the following:

The mortality of injuries to the abdominal viscera, from external violence—over 40 per cent.—is much higher than of corresponding lesions resulting from other causes, and is due no doubt to lack of early diagnosis and to operative hesitancy.

The death-rate of early operations averages less than one-third that of late operations.

The more commonly observed symptoms, pain, shock and rigidity, were present early in a large majority of the cases; pain 97 per cent., shock 82 per cent., and rigidity 90 per cent.

Peristalsis, one of the most important signs, was noticed or mentioned in less than 2 per cent.

## SUMMARY

Anyone who has been subjected to external violence of such nature as could, either directly or indirectly, produce injury to any of the abdominal viscera, should be given the most careful examination, and be kept under close observation for several days. Any symptom, no matter how slight, referable to the abdomen, must be considered as a sign of possible visceral injury when it follows the receipt of any violence, regardless of the point of impact or the extent of the external force.

The degree of violence bears no relation to the extent or severity of the resulting injury.

A most thorough investigation as to the exact details of the accident is important as an aid in determining the possibility and the nature of any injury.

Blows, kicks, and crushing violence produce most of the intestinal injuries, compressive force is the most common cause of trauma of the liver, and concussion is responsible for most of the splenic ruptures.

The presence or absence of peristalsis is of the utmost importance from a diagnostic or prognostic standpoint. Its early presence indicates that the abdomen or its contents have received some shock or violence. The persistence of recurrence of this sign is conclusive proof of internal or visceral injury. A decided lessening of peristalsis is a danger-signal if it occurs more than three or four hours after the accident. Active peristalsis is always encouraging in the presence of any abdominal injury.

There are no symptoms that are pathognomonic, most of them being common to all injuries, but, in general, progressively increasing shock indicates trauma of the solid organs, while early symptoms of peritonitis follow tears of the stomach or intestine.

Pain as an initial symptom is important only in that it calls attention to the fact that an injury may have occurred and that it may, by its location, indicate the possible site of the trauma.

Shock possesses no real diagnostic value except as to its progress or course, which is of the utmost importance.

I also wish to emphasize this fact: that an exact diagnosis is not necessary, though it is highly desirable, and that the early recognition of the probability of visceral injury is absolutely essential to lower the death-rate in these cases.

Appreciation of possibilities, or, as Murphy has aptly expressed it, "a keen surgical sense," is what is needed by the doctor who first sees the patient.

268 South Orange Grove Avenue.

## ABSTRACT OF DISCUSSION

DR. GARRY D. HOUGH, New Bedford, Mass.: There is one diagnostic sign in cases of internal injuries of the abdomen which was not referred to by Dr. Sherk. It is not always present—perhaps in only 30, 40 or 50 per cent. of cases. When present, it tells you exactly where the trouble is located. That sign is the hyperalgesic zone, which corresponds to the injured viscus. In 1893, an Englishman first brought out the fact of a hyperalgesic zone corresponding to disease in an abdominal viscus. When this sign is present, so far as cumulative experience can yet tell us, it is an absolutely certain thing, but unfortunately it is present in only about half of the cases.

DR. MAURICE H. RICHARDSON, Boston: A most important point which is emphasized in this paper is abdominal diagnosis. In an abdominal case, the greater the difficulty of diagnosis the greater the interest, and the greater the satisfaction when exploration shows that diagnosis correct. Except in urgent cases, I take any amount of time necessary to come to a positive conclusion. But there is reason in all things. After violent blows on the abdomen, to wait for symptoms enough for a positive diagnosis is to let pass the only opportunity for successful intervention—so, too, in perforations of the alimentary canal, and in duodenal and gastric ulcer. On the other hand, it may save the patient an unnecessary exploration if the surgeon takes days, or even weeks, to make a diagnosis.

In teaching, I stand for extreme care in diagnosis, especially abdominal—for the exhausting of every symptom in the history, and of every sign in the physical examination, and for the education to the greatest nicety of the powers of observation and deduction, before subjecting a patient to even the slight risks of exploration. But when we come to abdominal emergencies we cannot wait. In large communities, where these acute emergencies are common, we cannot and do not wait for a positive diagnosis. We must feel assured that there is a reasonable certainty that some serious lesion demanding surgical remedy is present. The dangers of the exploratory operation are, of course, slight. I could pick out twenty-five men in this audience whose operations for chronic appendicitis

would number, in the aggregate, at least 50,000, with so small a mortality that it would be a negligible factor. And yet there is a certain risk which should be avoided in advising operation on inadequate study. When a surgeon advises a young girl to have the appendix taken out, and bases that advice on her saying that she has appendicitis, and on a physical examination which consists in leaning across his office table and pressing with his fingers on the right iliac fossa, through the clothing, corsets and all—I call that the extreme of absurd opinion and unjustifiable advice.

In abdominal trauma, whatever the cause, we must not wait until there is muscular rigidity, vomiting and distention. We all know that when these symptoms are present operations succeed only by a miracle. In chronic abdominal disease the benefit of the doubt means conservatism. Study the case with care and deliberation. What you lose in time you gain in prognosis. In acute abdominal emergencies, especially the traumatic, the benefit of the doubt means radicalism. Make the diagnosis with speed and operate immediately. What you gain in time you gain in prognosis. I could give my personal experiences, which have forced me, rather against my natural tendencies, to become extremely radical in the presence of sudden and severe abdominal symptoms, whether traumatic or not. If the surgeon ever needs to be prompt in the application of operative measures for the relief of acute abdominal symptoms, he must be prompt when those symptoms follow violence to the abdominal wall.

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## THE SECRET COMMISSION EVIL*

J. P. LORD, M.D.
OMAHA

There seems to me to be a greater need to discuss one of the ethical questions agitating the surgical world to-day, than to add another scientific paper. It has seemed to me that specialism, with all the advantages and benefits which it has brought to mankind, enabling specialists to render such distinct service to humanity, and thereby enhancing public confidence and esteem, has not been an unmixed blessing to the professional body. The new conditions, changed relations, variable rewards, and readjustments in the relationships of patient, family physician and specialist, together with new economic conditions, as developed by our numerous public and private hospitals, dispensaries, laboratories, corporation work, indemnity insurance, lodge and society practice, have brought problems for solution by the profession in general, and our specialty in particular. The commercial spirit, with which the present age is now credited, has added another factor, the control of which we, with our somewhat neglected code of ethics, have not kept. The rapid development of specialism, with its special rewards and the keen rivalry incident thereto, has developed a new order of things professional, the ethical adjustments of which have not yet been generally made.

There has been so much said on this subject that it would seem almost puerile to attempt to say more. Indeed, it is not my purpose to try to improve on what has already been so well and so fully presented. Realizing as I do that it is probably true that the practice of fee division, secret division, joint fees, commissions, so-called dichotomy, graft, and possibly obtaining money under false pretenses, is increasing, especially among the younger element, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this moral problem and will yield to the general trend of practice unless some aroused moral force within the profession, or the effect of publicity, checkmates this menace to professional honor, dignity and common honesty. I agree with those who favor publicity as the speediest and most effective remedy. Then, too, we need some Roosevelts to keep up a rapid-fire attack on this practice.

We should maintain a sentiment against any countenance of graft. Its devotees should not be given positions of honor. They should learn the penalty for unfair and unmanly competition. The present standards of membership of this society should prevail, and we would do well to revise our membership lists, since we have a considerable number who do business on a commercial basis. Our body is not in a position to reform the other fellows when we, too, are culpable. Scarcely a man among us is in a position to cast the first stone, but there are many who have recoiled from this thing on the discovery that this temptress had assailed their manhood and their integrity, and that they had actually violated their patients' confidences.

In writing on this subject several years ago I made the statement that the division of fees was not itself so bad as that to which it leads. The road is short and direct to the practice of graft. This may be a seemingly harsh term to apply to some of the more respectable forms of secret fee division. Secrecy, however, makes it dishonest and renders possible all forms of abuse. The results of the practice are so manifestly demoralizing as to cause all those who love their profession and cherish its sacred traditions, and who seek to uphold its honor and good name, to array themselves in opposition to those who seem concerned only for the monetary rewards of to-day.

It has been observed that those practitioners who work on a commercial basis are too prone to lose sight of the patient in their efforts better to serve their immediate selfish ends. Their lack of thorough conscientiousness leads them into questionable methods. They handle cases as merchandise instead of treating them as patients. This causes them to hold on too long before advising operation, and then to recommend operation on a moribund patient. Their zeal to have people operated on who are willing, causes them to work up cases, and this working-up process sometimes is so considerable that they claim compensation for it. The service is often times considered by them of monetary value equal to or greater than the skilled and experienced services rendered by the surgeon, who has possibly made or caused to be made various laboratory tests, and exhausted every resource to complete a diagnosis, and who has done the operating and given the after-care.

The specialists with their hospital connections and the valuable facilities for advanced and successful work, and the resulting wealthy and large clientele, cause the envious to consider that these men have the best of it, and they are willing to adopt grafting as their most ready means to easy money.

The practitioners who have for years adhered to an inelastic fee-bill find themselves with their financial wings clipped, and unable to rise above the level of customary fees. The specialist is somewhat of a law to himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's facile faculty of fee-getting, by requesting the specialist

* Read before the Western Surgical Association, Chicago, December, 1910.

to add a sum for them, as the people would object to paying them a proper amount.

The specialists have often been accommodating in this way, and have saved themselves and the family physician the trouble of explaining the matter to the patient. The country doctor often plays "goody-goody," and says that he will not make a charge for accompanying the case if expenses are paid, of course depending on receiving a part of the specialist's fee. The specialist's fee is, therefore, under such circumstances, unnecessarily large. This gives the patient and all his friends an exaggerated idea of the value of the surgeon's services, and the relatively greater importance of the work of the specialist. The poor country doctor's services, therefore, become diminutive, judged by the cheapness of his fees. In other words, he is overshadowed and has cheapened himself.

Physicians of all classes must learn to make charges commensurate with the value of their services. Fee-bills hinder in this. The fee-bill is the union scale. It bolsters up the incompetent and often prevents the high-class, scientific man from getting his deserts. A hide-bound fee-bill and an increasing lack of appreciation of the practitioner's value, dwarf him, and compel him to resort to questionable methods for playing even. He must learn to elevate his standing by special fees for his improved methods of diagnosis and treatment. These have been acquired, perhaps, by special post-graduate courses, time abroad, and special equipment, and yet his price per visit or consultation is the same as it was twenty-five years ago.

Surgeon's fees may be no greater, but when we come to consider that it is possible for the surgeon to operate on several patients in the course of one morning, which is rendered possible by having the command of an unlimited hospital force, we can readily understand how the net results may be much greater than in the earlier days of surgery. On the other hand, the practitioner finds his work more exacting and painstaking, requiring more time, trouble and expense.

The rapid development of surgery during the last quarter century, with its greater rewards, has attracted so many to its ranks that competition for business has become so keen as to bring about these trade methods. Too many are now occupying the surgical field to be favored with teaching and hospital positions. Therefore, other means must be resorted to for attracting business. This custom of fee division, however, was probably established by some of the very men holding these places, and now their old weapon is turned against them.

Many of our surgeons throughout the country are ready-made after a few weeks at some of our large clinics, and then after self-styling themselves as surgeons and passing word along the line that they are liberal and fair with the general practitioner, they are soon doing business and are not embarrassed by that period of waiting so well remembered by some of us.

Our medical schools have been remiss in their ethical instruction to students. The subject of fee division has been eschewed in some faculties for fear of engendering feeling, developing strife and endangering the integrity of the organization. The same silence has prevailed in medical societies, because it might cost something to speak. Students are now without the close contact that was enjoyed in the days of the preceptor, whereas they now need more of the moral and ethical side than ever before.

Clearly so gross a violation of honesty and ethics, if continued, will lead to greater violations of fair play. If our tendency is to lower levels of conduct, it will be but a question of time until our noble profession will be out of favor with the people. There has never been a time when full confidence is more needed, because the cooperation and confidence of the people is necessary to secure the legislation needed for conserving the public health. This would aid the people in realizing our dreams of health and resultant happiness from the prevention of disease consequent on a universal crusade against violations of hygiene and health, and for the elimination of all preventable disease. A mercenary profession unworthy of public confidence will retard this movement and the unworthy members must be held to account by us and our standards maintained. At present the profession is becoming demoralized and our standards are being systematically assailed. Not only our standards, but those who stand for them, are attacked and their characters and motives are besmirched.

The graft element is going into medical politics and some county societies are controlled by this element. The old guard is discredited and lowered standards set up. The influence of these classes is against the American Medical Association, and their influence is soon to be felt in their organized opposition. The profession of Chicago and some other places do not have to go from home to read the handwriting on the wall.

The demoralization will be more complete when this practice extends to other lines than surgery. The movement has begun, and consultation practice and other specialties are now in the throes of this evil. The practitioner will call a man of sufficient standing to enable him to name a fancy price as the consultant's fee, which he collects and then remits the consultant the minimum fee. Any one of us can verify this by personal experience.

The primary object of fee-splitting is to get business. It is unfair competition. It has been my observation that fee-splitters are bad competitors in other ways. They will resort to other equally devious or questionable means of getting patients. They are usually underbidders; they lack sincerity; they are dishonest; they do not stop at dividing with physicians: hotel clerks, hack-men, news-agents, bar-keepers, ordinary clerks, traveling men, medical students, priests and preachers—all are represented, though few of the latter classes stoop to this practice. Those who do this will not stop at wilful misrepresentation of men of high character and standing. Physicians go lower and lower who become infected with this vice, and their penchant for easy money becomes their undoing. Their methods become known in a community. Then they sell out, move to another locality, and immediately proceed to repeat their previous methods. These, of course, are exaggerated examples of the grafter, but a physician who grafts at all is not only unethical but also dishonest.

The graft spirit has developed alarmingly within a decade, but a reaction has set in. Encouraging reports of progress have come from Chicago, Minneapolis and St. Paul, and I am pleased to report that a stand has been taken by the faculty of the University of Nebraska and of the Creighton Medical College. Whole states are, however, reported in the grasp of the system. Kansas, Iowa and Missouri, as well as many other states, are affected by it. From Kansas specialists report that division of fees is too mild a term; that the surgeon must now accept what the general practitioner is willing to give him.

Hospital service is now required for graduation by some medical colleges, and considerable numbers who have had hospital training and are qualified tc do surgery go to our smaller cities and larger towns. To gain a foothold, notwithstanding the prestige of college professors and the large denominational city hospitals to meet competition, a resort to fee division and ultimate graft is the easiest course. The wail is going up in every quarter from our less enterprising but more conscientious confrères, and we are now hearing from some of our city brethren, who are beginning to observe the rather alarming prevalence of these methods of finance, exploitation of cases, and the merchandising of patients.

After all of this lugubrious, pessimistic and despairing talk of conditions in our profession I am still hopeful. Physicians as a class are the best people on earth, made so by their education, environment, every-day training in charity and human sympathy.

This evil thing had a very innocent and insidious start. The surgeon wanted to be fair and divided fees that the physician had in part actually earned. Nobody was harmed, for the patient had not been wronged. This seemed innocent enough. Then came the time when the physician collected the fee and told the surgeon that the patient could pay nothing, or could pay but little, and either kept the whole or an undue portion, or took the divided fee and then rendered a separate bill. After this he became money-mad and sought subjects on which to satiate his sordid desires for easy gain. If the honest surgeon turned him down he sought those who would not and he has been busy ever since.

The surgeon who follows the lines of least resistance in these moral matters soon finds himself in the grasp of the system. Many very good, but quasi-respectable, men follow this practice, persuading themselves that the doctor cannot be paid too much, and uphold the practice because it suits their convenience and is more profitable. Then, too, they say, "What's the difference?" The difference is most keenly realized when you have to tell your son, as I have mine, that our profession is becoming commercialized.

The prospects, therefore, are not encouraging for the profession, and we are compelled to admit that it is not what it once was. Its ideals are lowered. Its ethics may not be maintained and the best men under these conditions will not be eager to enter it.

Such courses, if pursued, will cost the profession its influence, cause loss of respect and confidence on the part of the people. Overcrowding and commercial competition will cheapen services and with the increase of endowed hospitals, dispensaries and laboratories, rewards for scientific medicine will be reduced. The general profession, which is already overshadowed by specialism will then be in hard lines. Every time a physician fails to make a proper and independent, self-respecting charge for the services rendered by him in the making of a diagnosis, recommending an operation, accompanying a patient to a hospital, being present, or assisting in an operation, he belittles himself, unduly aggrandizes the surgeon and discounts his own future usefulness, making it that much harder for those who follow him.

To be respected the physician must be self-respecting and respectable. He is the surgeon's friend and the surgeon will help him, if he wishes, to be independently, adequately, and respectably paid for his valuable services to the patient and to the surgeon as well. Division of fees is wrong, dishonest, and must be stopped for the good of all concerned. It has been my settled conviction for a long time that the physician is the ultimate loser by this practice, no matter how immediately profitable it may be to him. He is becoming dwarfed by his own short-sightedness and asphyxiated by a noose which was cast about him by a crafty specialist, perhaps, but which he himself is now tightening about his own throat.

There has been more harm done than can be overcome in a generation. Delayed action means more sacrifice. The organized profession should busy itself in reformation and take its stand in medical colleges, hospitals, and societies, and as individuals and organizations, educate the public and reform our own members. The most hopeful view may be taken of the result. Any practice which even smacks of graft, or of obtaining money under false pretenses, cannot endure before a righteous public opinion. Nor will it continue in a profession which has cherished ideals from Hippocrates and the whole line of medical saints, religiously followed by the vast majority, during all the ages of the history of medicine.

501 Paxton Building.

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## THE TREATMENT OF ANTEFLEXION OF THE UTERUS *

HENRY T. BYFORD, M.D.
CHICAGO

I have nothing new to offer in the treatment of anteflexion of the uterus, except the resolution not to offer anything new. The great and original Solomon knew of nothing new. In surgery most of the new things are nuisances because it takes so much writing of papers and mutilation of patients to demonstrate that the new usually eventuates in nothing, and should not be written about.

My experience with anteflexion is that somehow or other we have always been able to relieve our patients. Yet, judging from the new things that have been advocated from decade to decade, one would infer that up to the present time, or at least up to the last new thing that is offered for trial, the real thing had not been discovered. It is "off with the old and on with the new." There are many great operators, yet few great surgeons. The fact is that those who make real advances in surgery, as in other arts, do not look into the future but into the past. They take the good they find in old things and adapt it to the needs of the present, and thus advance our knowledge by giving us, not something new, but only the appearance of something new. But I am not going to offer even the appearance of something new. I am content, with Solomon, not to pretend to know anything new.

Instead therefore of looking toward the future which, until it comes, can have nothing reliable to teach us, let us review what the past has taught us. In mild cases of anteflexion with dysmenorrhea and sterility a few moderate dilatations by the sound have been followed by pregnancy and cure. In other cases divulsion and temporary packing of the cervix have sufficed. But we have not infrequently encountered cases in which congenital and developmental deficiencies were such that these methods only temporarily relieved the dysmenor-

* Read at the twenty-third meeting of the Southern Surgical and Gynecological Association, Dec. 13, 1910.

rhea, and the sterility not at all. In some of them the monthly crises have led to hyperplasia of the uterus and ovaries and chronic invalidism, and last, but not least, to a loss of the ovaries by operation. The uterine body is apt to be well developed, or to become so as the result of the excessive monthly hyperemia connected with its distention by the menstrual fluid and its efforts at expulsion; but in the cases of which I am speaking, the uterine ligaments remain short, the cervix and vaginal fornices poorly developed, and more or less pressure atrophy of the anterior cervical wall takes place.

A few dilatations with sounds, or divulsion and packing, unless followed by pregnancy, cannot rectify the last-mentioned conditions. Discission of the cervix, whether by the Simpson or Sims methods, or by the Dudley or Pozzi modifications, does not rectify them. These operations often cure the dysmenorrhea and establish uterine drainage, but they mutilate and tend to throw the cervix out of function, and thus favor atrophy rather than development. The relief from suffering is frequently, although not always, immediate, yet in quite a proportion of cases is not permanent. When it is permanent the mutilation is apt to be such that the uterus cannot retain the fecundated ovum. In short, such operations benefit the surgeon rather than the patient or posterity.

What is lacking in all of these procedures is the development of the cervix and vaginal vaults. The uterine cavity is not even made straight; its lower or cervical portion is destroyed, and thus a portion of the curve eliminated. But anteflexion is normal, and the cavity of the uterus does not have to be made straight. The entire uterine cavity can be made large enough to allow of a normal outflow of the secretions without destroying the lower or cervical portion. Such a condition we sometimes observe in multiparæ with extreme anteflexion. And just as we can obtain this result temporarily by an adequate dilatation, so we can secure it permanently by keeping the cavity adequately dilated. But there is only one way of keeping it dilated and that is by developing the cervix. Pregnancy does this and takes months to do it. We can also do it, but we must also take months, many months. Goodell tried to do it by the extent of the dilatation. Gill Wylie succeeded by a persistent use of a stem after the divulsion, and Davenport still uses the stem method quite successfully. The Outerbridge stem has, I think, been successfully used, but it is not a safe instrument. Vulliet kept the uterus packed with cotton balls for variable lengths of time with success. Experience and reason have taught us that almost any foreign body that cannot be accommodated in the uterine cavity without some enlargement or stretching of that cavity, will, if kept in it, cause some development of the uterus and its cavity in size. If the foreign body project down into the cervical cavity it will act similarly on the cervix. But any foreign body left in the uterus is liable to cause abrasions and infection, and, with the supervision that can ordinarily be given, invites disaster.

Since none of these methods has found general favor, and it is no longer considered an evidence of fogyism not to perform a radical operation, I shall venture to present the claims of the method I have always employed. It consists in introducing a body large enough to overdilate the cervix, and often enough to keep it overdilated. I have treated puerile cervices on this principle and feel that I am very far within bounds in saying that if we can keep the entire cervix dilated sufficiently for the passage through it of a number 20 (Am. scale) male urethral sound from one to two years the cervix will then continue to functionate normally. And this treatment is not so strenuous and tedious as the words "two years" would suggest.

Without the recital of individual cases I will say in a general way, that I have sometimes commenced by dilating biweekly with a small block-tin sound and have progressively dilated to about the size indicated. I have then maintained it by means of weekly dilatations for a time, then bimonthly, then monthly until the year was up. As a rule I have had the patients come back in six months or a year for a few weekly dilatations in order to be sure of permanency of results. In most cases I have preferred beginning with divulsion under general anesthesia and have then prevented contraction by the periodical passage of the sound. But the important and indispensable part of the treatment is its continuance for many months. In the event of a return of the dysmenorrhea an immediate resort to the treatment gives prompt relief. A few biweekly dilatations followed by a few monthly ones usually suffice to render the cure permanent.

The greatest objection to the treatment is that it is painful. I reduce this objection somewhat by passing the sound frequently at first, *i. e.*, by not giving the cervix time to contract too firmly between times. As the tendency to rapid, firm contraction diminishes, the dilatations can be made at longer intervals without increase of pain. I like, however, to dilate as widely each time as the patient will tolerate because the greater each dilatation and stimulation the greater the effect on development. As I have already said the tedium of the treatment is not as great as one might suppose, because, after the dilatations are a month apart, they occupy but little of the patient's time and attention, and can then be continued as long as desirable. The temporary pain of one or two treatments each month is more easily and willingly borne than the monthly dysmenorrhea, the more so as the patient knows that they will soon become less frequent. The pain ceases the moment the sound is withdrawn, and the patient may go out from the office to do her shopping.

With regard to the technic, the patient takes a copious normal salt douche before leaving home for the office. After the introduction and adjustment of a sterile bivalve speculum, the vaginal fornices and cervix are swabbed out thoroughly with a 5 per cent. solution of phenol, and the sound, after having been curved to suit the case, is dipped into the same solution immediately before being passed. Sometimes it is necessary to steady the cervix with vulsellum forceps, but the vaginal fornices are often so small that the expanded speculum puts them on the stretch and keeps the cervix from receding too far. Before removing the speculum I disinfect the uterine cavity, and introduce a dry sterile wool tampon under the cervix and leave the latter for twelve or twenty-four hours for its dilating effect on the vaginal fornices. The patient withdraws it by means of an attached thread and uses a copious normal salt vaginal douche.

I have thought it worth while to go into the details of this old, well-known treatment for the following reasons:

1. I know of no book or monograph in which its efficacy is given proper appreciation.

2. I know of none in which the necessity of such persistence in overdilatation is sufficiently emphasized.

3. I know of no method that will give better results if persisted in to the extent I have recommended.

4. I know of no cure that is as safe in the hands of the average practitioner.

5. I know of no book in which a sufficiently definite detailed technic is given.

6. The cutting methods are all objectionable and irrational in cases of arrested development.

I might add that, in patients who are hyperesthetic or intolerant of pain, this treatment can be combined with other treatment. For instance, if the patient will not allow a sound of the same size to be passed each time, and the cervix gradually contracts, divulsion under anesthesia can be performed two or three or four times at intervals of two or three or four months and the dilatation kept approximately at the same degree by the sound between times.

100 State Street.

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# THE IMPORTANCE OF THE AUTOPSY AND OTHER PATHOLOGIC-ANATOMIC EXAMINATIONS *

HANS CHIARI, M.D.
Professor of Pathology, University of Strasburg
STRASBURG, GERMANY

In 1761 Giovanni Battista Morgagni (1682-1771, Professor of Anatomy in Padua) published his famous work: "De Sedibus et Causis Morborum per Anatomen Indagatis," and thereby became the real founder of human pathology. He attempted to give a very complete picture of morbid processes by carefully comparing the clinical aspects of disease with the anatomic findings in a large number of cases. In the title of his work Morgagni summed up the chief problems of pathologic anatomy and in recognition of this fact Rokitansky (1844-1875 professor of pathology in Vienna) used the title in the following somewhat modified form, for the inscription on the pathologic-anatomic institute in Vienna: "Sedibus et Causis Morborum per Anatomen Indagandis."

As the sphere of pathologic anatomy has broadened since it became an independent science seeking to solve its own problems, not only by the examination of the cadaver, but also in other ways, for instance, by the experimental method, the position of the pathologist has correspondingly increased in importance. In the autopsy room the pathologist must take due cognizance of the ever-broadening and more exacting demands of the clinician; he must endeavor at each autopsy to give the physician a satisfactory explanation, and he must examine each case most minutely with the aid of modern methods of histology and bacteriology. By means of such elucidation, he will materially assist the clinician, and he will also develop new ideas in his own scientific field. In this way he can advance toward the goal of all the medical sciences, namely, the relief of human suffering.

Therefore there can be no doubt of the need of pathologic investigation. All the medical schools and hospitals are wise in striving for a large amount of autopsy material in order that the students may be instructed, that physicians may gain experience, and that the interests of science may be advanced. Naturally the autopsies must all be done with the strictest adherence to the principles of humanity, with careful consideration for the wishes of the relatives, and with the greatest precautions to avoid any mutilation of the body. To this end pathology has at its disposal a well-developed technic which is constantly being improved.

In order to give a graphic picture of the importance of post-mortem examinations, I should like to select a series of cases from the eighty-seven autopsies performed at the Pathological Institute in Strasburg during the month of June, 1910, and to discuss them somewhat in detail:

## ILLUSTRATIVE CASES: CLINICAL AND PATHOLOGIC-ANATOMIC DIAGNOSIS

Eleven cases of fatal nutritional disturbances in infants between the ages of 2 and 6 months: six cases of enteritis; five cases of general atrophy.

Two cases of status lymphaticus:

Patient, male, aged 16. Otitis media with meningitis and chronic general tuberculosis. Death while under chloroform narcosis at the beginning of the operation.

Patient, female, aged 27. Ruptured tubal pregnancy in second month. Salpingectomy seven hours after rupture. Death three and one-half hours later. Moderate anemia.

Four cases of fatal embolism of the pulmonary artery:

Patient, female, aged 38. Death from thrombosis of the right femoral vein, four days after salpingectomy for gonorrheal salpingitis.

Patient, female, aged 53. Death from thrombosis of the ovarian vein of the left side, six days after double ovariotomy for carcinoma.

Patient, female, aged 58. Death from thrombosis of the left external saphenous vein, six days after operation for femoral hernia.

Patient, female, aged 63. Death from thrombosis of the right external saphenous vein, twenty-two days after encephalomalacia.

Two cases of auto-intoxication from incarcerated hernia:

Patient, male, aged 73. Incarcerated inguinal hernia for five days. Death one day after operation for hernia. Epithelial necrosis of the kidneys.

Patient, female, aged 58. Incarcerated femoral hernia for four days. Death three days after operation for hernia.

Two cases of latent septicemia:

Patient, female, aged 40. Clinical diagnosis: ileus from carcinoma of the sigmoid flexure. Pathologic-anatomic diagnosis: streptomycotic peritonitis caused by suppurative salpingitis.

Patient, female, aged 56. Clinical diagnosis: chloroform narcosis after hysterectomy for ulcerating carcinoma of the cervix. Death one day later. Pathologic-anatomic diagnosis: streptomycotic septicemia.

Two cases of birth injuries:

Fetus of 9 months. Breach extraction. Compression of skull and rupture of the spinal column between the fifth and sixth dorsal vertebræ.

Patient, female, aged 25. Transverse position. Laceration of the vagina following attempted version outside of the hospital.

One case of criminal abortion:

Patient, female, aged 24. Pyemia after abortion. Laceration of the vagina, posterior labium of the external os and of the cervix.

One case of injury due to enema:

Patient, female, aged 38. Peritonitis from perforation of the rectum.

Two cases of latent carcinoma of the stomach:

Patient, male, aged 43. Clinical diagnosis: carcinoma of the sigmoid flexure. Pathologic-anatomic diagnosis: carcinoma of the pylorus and secondary carcinoma of the peritoneum, with stricture of the sigmoid and of the descending colon.

Patient, female, aged 27. Clinical diagnosis: carcinoma of the ovaries. Pathologic-anatomic diagnosis: carcinoma of

* Address delivered before the Harvey Society, New York, October 15, 1910.

the posterior gastric wall and secondary carcinoma of the ovaries.

One case of latent pericarditis:

Patient, female, aged 71. Clinical diagnosis: lobular pneumonia. Pathologic-anatomic diagnosis: lobular pneumonia, tuberculous pericarditis with effusion, latent tuberculosis of the apex of the lung.

One case of late recurrence of carcinoma:

Patient, male, aged 47. Recurrence of carcinoma in the cicatrix four years after excision of the carcinomatous rectum.

One case of puerperal eclampsia:

Patient, female, aged 37. Multiple necrosis of the liver.

One case of Hodgkin's disease:

Patient, male, aged 27. Swelling of the left lymphatic glands and left tonsil. Nodes in the spleen, lungs and pleuræ. (The same diagnosis was made nine months previously from an extirpated axillary gland.)

One case of nephrolithiasis:

Patient, female, aged 67. Right hydronephrosis and uratic calculi. Left uratic nephrolithiasis. (Calculi in left kidney stained with methylene blue.)

### COMMENT

The cases of nutritional disturbances in infants confirm the frequently expressed opinion that serious digestive disturbances occur without even microscopic changes in the intestines, which depend entirely on chemical alterations in the intestinal contents. These chemical changes are being carefully studied of late by pediatrists and thereby a real basis for a correct therapy is being established.

The cases of status lymphaticus show the great significance of this constitutional anomaly. Patients of this class stand chloroform anesthesia and loss of blood very poorly.

The four cases of fatal embolism of the pulmonary artery are good illustrations of the frequency of this lesion, which so often interferes with the success of operations. Such an embolism is not a rare occurrence, and it is easy to realize that surgeons take every precaution to avoid such a complication. This condition cannot always be diagnosed clinically with certainty, and therefore the autopsy is necessary to confirm the diagnosis.

The cases of incarcerated hernia serve to show how much danger attends the retention of the intestinal contents. Very commonly this decomposition of the intestinal contents causes an auto-intoxication to which the patients succumb in spite of a successfully performed herniotomy. In order to prove this point of view, I have but to refer to the first of the two cases in which the microscope showed diffuse necrosis of the renal epithelium. In other cases, on the contrary, the necrosis of the liver parenchyma is of special interest.

The two cases of septicemia emphasize the importance of bacteriologic examinations at the post-mortem table. In the first case, no positive clinical diagnosis could be made. The autopsy showed a streptococcic peritonitis due to a purulent streptococcic salpingitis, which in turn, judging from the nature of the bacteria, was of puerperal origin. In the second case, streptococci were cultivated from the heart's blood and from the various tissues of the body, and the case therefore had to be diagnosed as a streptococcus septicemia. Later, on talking the matter over, the clinician thought, and rightly, I believe, that the infection was due to the deep ulceration of the carcinoma of the cervix, which had been curetted.

The cases of birth injuries are of great importance because they can easily result in severe injury to mother and child. In the first case, the delivery was certainly difficult, and in spite of the fact that it was performed by a very competent obstetrician, it resulted in a fracture of the spinal column. In the second case, a physician not in the hospital had made several attempts to correct a complex presentation by means of version and had thereby lacerated the vagina so severely that there remained only a strip of its anterior wall behind the urethra. The patient was subsequently brought to the hospital and died of acute anemia.

The case of criminal abortion shows the typical lesions which we find in this class of cases: Frequently there occur punctured wounds of the posterior wall of the vagina, perforations of the cul-de-sac of Douglas, injuries of the posterior lip of the cervix and of the adjoining portion of the uterus. As these injuries are for the most part done with unclean instruments, the women so treated are very often victims of fatal puerperal infections.

The case of injury due to enema, which happened to a 38-year-old woman outside of the hospital, may serve as a warning. Pathologic anatomy teaches that such injuries from enemas are due to the use of hard cannulas, and are, especially in children, much more frequent than is generally believed.

The cases of latent carcinoma of the stomach are very important from a diagnostic point of view. In the first case, the secondary carcinoma of the peritoneum, which had invaded the sigmoid flexure and caused a stricture, was diagnosed as a primary lesion, and in the second case we were dealing with a condition frequently described of late, a primary carcinoma of the stomach with typical secondary implantation lesions in both ovaries in which the secondary metastases had been regarded as primary lesions.

In the same way, the case of latent pericarditis demonstrates the difficulty of many a clinical diagnosis.

The case of recurrent carcinoma in the scar four years after extirpation of the rectum for carcinoma, is instructive because this recurrence was a very late one. We now have, however, definite knowledge of much later relapses.

The case of puerperal eclampsia was typical. It showed perfectly the characteristic areas of necrosis and hemorrhage of the liver, which were first described by Schmorl.

In the case of Hodgkin's disease there was found the well-known histologic condition of granulation tissue with fibrous connective tissue and polynuclear giant-cells in all the diseased areas; these lesions had also been found in the axillary glands, which had previously been extirpated for diagnostic purposes.

The last case had the significance of an experiment. The 67-year-old woman had been given methylene blue on account of symptoms of cystitis. At the autopsy, the uratic calculi in the left kidney, which secreted urine, were stained with methylene blue, whereas those in the right kidney, which had ceased to functionate as a result of atrophy following hydronephrosis, were entirely free from any stain.

These cases, selected from the records of one month, well demonstrate the importance of the careful routine autopsy and indicate how much the student and physician can learn both from a scientific aspect and from the point of view of the welfare of the patient. Every autopsy adds to our store of knowledge and justifies the old adage which we often see inscribed in the autopsy room: "Hic est locus ubi mors gaudet succurrere vitæ."

A pathologic institute can be of service to the physician and of benefit to the sick in other ways. I refer to the microscopic diagnosis of tissue removed by the surgeon. I may here mention the results of the microscopic examination of curettings from the uterus. How often the examination does not determine whether we are dealing with an abortion, an endometritis or a carcinoma!

Furthermore, I may refer to the microscopic examinations for carcinoma of excised tissue, a recourse which so often saves the patient from the sacrifice of important organs, e. g., the tongue, the larynx, the penis, the cervix. On the other hand, if the carcinoma or other neoplasm is diagnosed, it may lead to an immediate life-saving operation. Finally, I wish to emphasize the importance of a careful examination of excised tumors, for this not infrequently, to the gratification of the pathologist, demonstrates that a condition which has been considered malign is in reality benign and permits of a favorable prognosis. These investigations are indeed very difficult and the pathologist cannot be too careful in his reports; otherwise there is danger that he will bring undeserved discredit on the value of diagnoses made from excised tissue. He must never hesitate to acknowledge that he is unable to render a definite diagnosis. Then he will rightly fulfil his duty and the clinician will appreciate the weight of his opinions.

Thus it is seen how important is the function of the pathologist in performing autopsies, and how his calling is not only didactic but humanitarian. His work, therefore, deserves support and encouragement from all sides, and especially from the laity. The public must be made to appreciate to an ever-increasing extent the importance of pathologic anatomy. That this hope may soon be realized is my earnest wish, especially for the American universities.

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## A METHOD OF TREATING THE PROSTATIC UTRICLE *

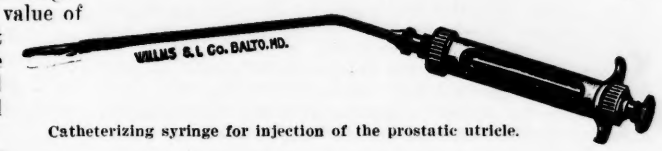
J. T. GERAGHTY, M.D.
Associate in Genito-Urinary Surgery, Johns Hopkins Hospital
BALTIMORE

Urethroscopy of the posterior urethra has been comparatively slow in developing, and not until the last few years has sufficient attention been directed to this important field. One result of this increased study has been the recognition of the important part which diseases of the verumontanum play in the production of severe and often distressing symptoms, generally classed as prostatic neuroses. In the milder cases remedial results were obtained by massage of the prostate, dilatations, instillations, etc. In others only temporary relief could be obtained by these measures, while in the aggravated cases frequently no amelioration was obtained.

Wossidlo was the first to call attention to the manifold symptoms which resulted from inflamed conditions of the verumontanum. He found that various symptoms usually ascribed to chronic prostatitis were not infrequently encountered in individuals in whom no prostatitis could be demonstrated. Sexual disorders such as precocious ejaculation, painful ejaculation, frequent seminal emissions, neuralgic pains in the perineum, groin and testicles, suprapubic region, sciatic pains, backache, etc., were associated commonly with the pathologic condition of the verumontanum. In the milder cases he recommended painting with tincture of iodin; in the severe cases he employed 10 to 20 per cent. silver nitrate or even a caustic stick, making direct applications through the urethroscope.

Young, for a considerable time, has practiced curettage of the verumontanum, following this by direct application of a pure stick of nitrate of silver.

The edematous condition of the verumontanum in many cases, with a normal appearance of the mucous membrane covering it, and the frequency with which one finds the orifice of the utricle intensely red and congested, suggested that in many of these cases the seat of the trouble lay in the utricle itself. In normal cases the verumontanum is seen through the open urethroscopic tube as a small, rather rounded, elevation; the mucous membrane covering it is distinctly pale and in marked contrast to the rather deep red of the surrounding urethral mucosa. In the midline and directly anterior, in the majority of the cases, can be seen the orifice of the prostatic utricle. The shape and size of the orifice varies; in some it appears as a minute, rounded depression, in others the orifice is a distinct slit, occasionally several millimeters in length. The ejaculatory ducts are usually not visible, but are situated laterally and generally lower on the wall of the verumontanum than the opening of the utricle. The cavity of the utricle varies some in size and shape. In most cases it is 0.5 to 1 cm. long. It may, however, be several centimeters long and extend up beneath the urethra as far as the bladder. I have found that the capacity of the utricle varies from 5 to 10 minims in the average case, but in an exceptional case it may be as much as 30 minims.



Catheterizing syringe for injection of the prostatic utricle.

The utricle is to be considered as a rudimentary organ representing the terminal portion of the Müllerian ducts, and for this reason it has been called the male uterus, although it is more correctly the analogue of the vagina.

It seems very probable that the utricle, on account of its size, can readily be the lurking-place for infection and as a result of the diseased condition in this cavity give rise to the pathologic picture so frequently seen in the diseased verumontanum. Although the literature is replete with references to the inflamed appearance of the utricular orifice, and numerous observations of pus exuding from the utricle have been made, no practical method of treating this sinus has, so far as I am aware, been suggested. The ease with which the orifice of the utricle can be observed in most cases, and the considerable size of the outlet, suggested the possibility of catheterizing through a straight urethroscopic tube and making injections directly into the cavity. By means of a syringe, shown in the figure, it has been found not only feasible, but surprisingly simple, to make injections directly into the utricular cavity.

*Technic:* A straight Number 24 (French) urethroscopic tube with an external light is passed into the prostatic urethra

* From the genito-urinary clinic of the Johns Hopkins Hospital.

beyond the verumontanum. Introduction of the straight tube to this point is practically always readily performed without the production of any trauma. The introduction of the tube beyond this point in occasional cases is accomplished with some difficulty, owing to the rather acute ascent of the posterior part of the prostatic urethra to the vesical orifice. When the tube, after passing some distance through the prostatic urethra, encounters resistance, one is practically always beyond the verumontanum. On moving the obturator one readily recognizes from the Y-shape of the urethral orifice that the end of the tube lies towards the vesical end of the verumontanum. The tube is then gradually withdrawn until the readily recognized verumontanum bobs into view. The tube is withdrawn until the anterior face of the verumontanum projects into the open portion of the tube. The mucous membrane is carefully and gently sponged with cotton swabs. The above position of the tube causes a tilting forward of the verumontanum so that the utricular orifice, which lies rather on the upper surface, comes directly facing the open end of the tube. The tip of the syringe can now be readily introduced into the orifice of the utricle, the contents of the utricle aspirated for microscopic examination, and injection readily made into its cavity. Not infrequently, owing to the edematous condition of the mucous membrane, the utricular orifice is not visible, but with gentle probing with the tip of the syringe in the middle towards the upper surface one will rarely have difficulty in accomplishing catheterization.

Silver nitrate has been the drug employed almost entirely, and it seems to give the most satisfactory results. While one can employ for external applications to the verumontanum silver nitrate in very concentrated solution, or the actual caustic, without the production, as a rule, of severe reactions, these strong injections are not well tolerated when given into the utricle. In patients with numerous neuralgic pains, the result of utricular disease, it is well to begin with injections of 1 per cent. and gradually increase the strength to 2 or 3 per cent. The employment of too strong a solution may cause intense pain lasting over several days. The injection should be given slowly, as forcible distention may be quite painful.

The reaction produced by too strong injections frequently reproduces in a striking manner the different neuralgic pains of which the patient has complained. When 1 to 3 per cent. solutions of silver nitrate are employed the injections may be repeated at intervals of from five to seven days, but when stronger injections are employed they should not be repeated more frequently than every two to three weeks.

Painful ejaculation, according to Wossidlo, is due to a sclerosed condition of the lower end of the ejaculatory ducts leading to more or less contracture. The forceful emptying of the seminal fluid through these narrowed inflamed ducts produces the pain which occurs, and in many cases the pain is so severe that the patient is forced to refrain from coitus. It seems probable, however, on account of the frequency with which one or both of the ejaculatory ducts open on the floor of the prostatic utricle, that when the seminal fluid is thrown into this cavity the sudden distention of the inflamed utricular wall may produce the sudden sharp pain occurring at the moment of ejaculation.

Hematospermia, which is seen in the absence of disease of the seminal vesicles, may result from congestion of the utricular wall. In one case of hematospermia aspiration of the utricular contents showed a considerable amount of bloody fluid.

The benefits ascribed to irrigation and injection of the vasa deferentia by some authors are probably explained in many cases by the flushing out of the prostatic utricle, which occurs owing to the fact of the ejaculatory ducts opening so commonly on the floor of the utricle. The good effects in these cases cannot result from the washing out of the seminal vesicles, as it is questionable whether the fluid injected into the vas finds its way to any extent into the cavity of the seminal vesicles, owing to their anatomic structure.

Dribbling of urine following the act of urination I have seen in many cases without any explainable cause. No stricture, sclerosed condition of the posterior urethra, pathologic conditions of the prostate or spinal cord trouble, could be demonstrated. In many cases observed, the dribbling has been a great annoyance to the patient and rebellious in responding to the usual forms of treatment. In four such cases in whom no improvement was obtained, as a result of dilatations, electric applications, massage, etc., the dribbling has been entirely relieved by applications to the verumontanum and utricle injections. In two of these cases only slight improvement followed treatment of the verumontanum, but they responded rapidly and promptly to treatment of the utricle. The explanation of this does not seem clear. Infection of the utricle not infrequently is the cause of persistent recurring posterior urethritis. One case of persistent posterior urethritis, due to the colon bacillus, which had resisted during several years all efforts to dislodge the infection, on careful urethroscopy of the posterior urethra showed pus oozing from the prostatic utricle. Injections of 1 to 2 per cent. silver nitrate into the utricle was very soon followed by a complete disappearance of the infection. Another patient with persistent posterior gonorrheal urethritis, who had been under treatment many months, was finally cured by the same procedure. Infection in the prostatic utricle is probably the cause of many cases resistant to ordinary forms of treatment. In some cases, particularly when the orifice of the utricle is small, it is well to snip out a wedge-shaped piece of the utricular roof, thus affording better drainage. This can be done by means of scissors devised by Young for excision of portions of the verumontanum.

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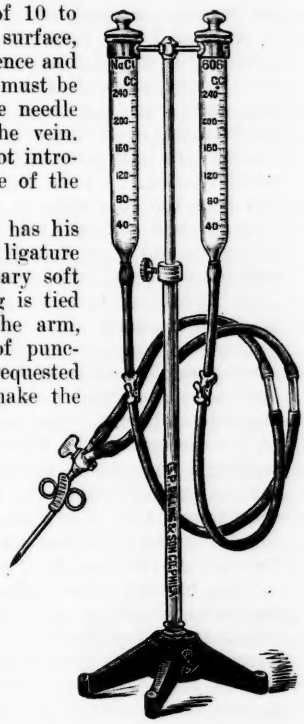
## AN IMPROVED GRAVITY APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN

JOSEPH L. BOEHM, M.D.
ST. LOUIS

My improved gravity apparatus for the intravenous injection of salvarsan seems to overcome and solve many of the difficulties which, as reports have shown, are connected with this method. The aim is to avoid getting any of the solution into the subcutaneous tissues before the needle enters the lumen of the vein. The several syringes and forms of air-pressure apparatus already on the market have proved far from satisfactory, and leave much to be desired in the way of a perfect technic. My apparatus is portable, can be disconnected in all parts of the stand, and by a thumb-screw allows of lowering and elevating the containers to any desired level, so as to control the rapidity of the flow of the solution into the vein. No solution which is not absolutely clear and sterile should be introduced into a vein. Clearness is to be obtained only by filtration through sterile filter-paper. In my experience very commonly the salvarsan solution contains some foreign flocculent particles; and there is also danger of small particles of glass being chipped off, if glass beads are used in the mixing cylinder; even if a mortar and pestle are used to triturate the salvarsan, such flocculency commonly exists.

Two graduated glass containers of 250 c.c. capacity are used. Into one is poured 150 to 200 c.c. of sterile salvarsan solution. The other is filled with a like volume of sterile saline solution (made with sterile distilled water and chemically pure sodium chlorid).

The saline solution is allowed to flow out of the needle so as to expel all air from the tube. The stop-cock is now reversed, allowing the salvarsan solution to flow out of the needle, thereby expelling all air from its respective tubing. The stop-cock is now reversed to its former position, until the saline solution is running in a slow even stream from the needle. The desired site of puncture is selected on the arm or at the elbow, and the needle is gently pushed or thrust through the skin into the vein. Meanwhile the saline solution is continuously running from it. The needle is held at about an angle of 10 to 15 degrees to the skin surface, depending on the prominence and caliber of the vein. Care must be exercised not to push the needle through both walls of the vein. This can be avoided by not introducing too long a surface of the needle into the tissues.




Improved gravity apparatus for intravenous injection of salvarsan.

The patient previously has his arm carefully cleansed, a ligature in the form of an ordinary soft rubber catheter or tubing is tied around the middle of the arm, above the selected site of puncture, and the patient is requested to tighten the fist, to make the superficial veins more prominent.

As soon as the needle has entered the vein, the rubber ligature is released by an assistant, the stop-cock of the needle is reversed, and the salvarsan solution flows through the needle into the vein. Hence, there is no danger of any salvarsan solution getting into the subcutaneous tissues. No injection should be given intravenously in less than about ten minutes, and the solution must be quite warm when poured into the container so as to allow for its cooling when poured into the apparatus; when it enters the vein, the solution should be about the temperature of the blood. An ideal intravenous injection is painless.

The needle will not produce cramping of the hand of the operator, as the thumb and middle fingers pass through the rings, and the index-finger rests on the corrugated plate on its superior surface, thus affording firm support and preventing the needle from changing position after it has entered the vein, which may occur if the patient coughs or sneezes. It affords a firm and comfortable hold, even if the operator wears rubber gloves, as I have invariably done in all my work in this line.

Another advantage of this needle is that the stop-cock is readily adjusted. While the needle is being introduced into the vein, blood must not be allowed to flow out of the vein and enter the tube containing the salvarsan solution. Blood entering the needle at any time except when the saline solution is constantly flowing out of the needle would have a tendency to clot in it quickly and block its lumen.

715 North Eighth Street.

## THE SANITARY INSPECTION OF OYSTER-GROUNDS IN THE UNITED STATES *

C. A. FULLER, PH.D.
Assistant Professor of Bacteriology, University of Wisconsin
MADISON, WIS.

The oyster industry forms a very important part of the marine fisheries of the United States. The market value of the products of the fisheries of this country (exclusive of Alaska) for the year 1908 was estimated by the Bureau of the Census[1] at $54,030,630. The income derived from the oyster trade alone, for the same year, amounted to $15,713,000, or nearly one-third the value of the total fishery products of the country.

The American oyster, *Ostrea virginia,* is found along the entire Atlantic coast from Maine to Texas. Two local varieties of oysters are also found on the Pacific coast. But the center of the oyster trade in America is confined to the Atlantic and Gulf states. The value of the product from these latter states amounted to $15,019,360 for 1908, while the output from the Pacific states for the same period marketed $695,640. Twenty-one states are interested in oyster production to a greater or less extent, the larger producers being Maryland, Virginia, Connecticut, Louisiana, New York and New Jersey. In 1908, Maryland marketed 6,231,967 bushels of oysters; Virginia, 5,075,014 bushels; Connecticut, 3,948,070 bushels; Louisiana, 3,650,456 bushels; and New Jersey and New York about two and a half million bushels each. South Carolina, Georgia, Rhode Island, Mississippi and Florida produced over 1,000,000 bushels each. The ten other oyster-growing states, with the exception of Maine and Oregon, marketed over 100,000 bushels each. In 1908 the oyster crop of the United States amounted to 33,329,925 bushels in market and seed oysters.

No very recent statistics on the extent of the oyster industry in other countries than the United States have been obtained, and in this connection reference is made to the data published by G. W. Fuller,[2] in 1905. This writer estimates the annual production of the United States at 28,138,434 bushels; of Great Britain at 2,760,000 bushels; of France at 2,000,000 bushels; of Holland at 70,000 bushels; and of the other oyster-producing countries at 610,580 bushels. From the above figures it would appear that the United States is by far the largest producer, and supplies the market annually with more than five times as many of these shell-fish as all the other oyster-producing countries combined. But, as is pointed out by Fuller, "these figures are not strictly comparable, as they refer in various instances to different years, beginning about 1890, and extending down to the present time (1905). But they serve to convey a general impression as to the relative extent of this important industry."

* From the Department of Bacteriology and Hygiene, University of Wisconsin.
* Read before the Second International Congress of Alimentary Hygiene and of the Rational Alimentation of Man, Brussels, October, 1910.

1. Preliminary Report of the Bureau of the Census on the Fisheries of the U. S. for the year ending Dec. 31, 1908.
2. Fuller, G. W.: Jour. Franklin Inst., August, 1905.

A considerable proportion of the oyster-grounds in the United States, especially in the southern part of the country, is found in open water, quite remote from any possible source of sewage pollution. The sanitary condition of these grounds is, of course, above suspicion. A large number of oyster-beds, however, are located in inland tidal waters, many of them in the vicinity of large cities and towns which discharge their sewage directly into tidal water or into streams flowing into tidal water. Thus, oyster-beds exposed to gross sewage pollution are found in Boston Harbor, in the Providence River, in New York and Long Island waters, in Chesapeake Bay and numerous other places famous for the quality of their oysters. The federal government has no jurisdiction over these areas and under the existing laws, cannot control the pollution of tidal waters or prevent the taking of oysters from polluted localities. Very recently, however, the government has taken a step in the right direction by prohibiting the sale of polluted shell-fish in interstate commerce.[3] This law went into effect May 1, 1910, and is in substance as follows:

> It is unlawful to ship or sell in interstate commerce oysters or other shell-fish which have been taken from insanitary or polluted beds, or which have become polluted by packing under insanitary conditions or by the use of unclean receptacles.

A second federal act,[4] in effect June 4, 1910, prohibits the shipment or sale of oysters "floated" in polluted waters. By the enforcement of these two measures the government hopes to control the shipment and sale in interstate commerce of polluted shell-fish, but places no restrictions on the sale of such shell-fish within the states in which they are grown.

The ultimate control of the oyster products in the United States, however, rests with the different state boards of health and shell-fish commissions, which should be vested with proper authority by their respective legislatures to act in cases of shell-fish pollution. Very carefully formulated and well-enforced laws protecting the natural oyster grounds and cultivated beds and regulating the sale or lease of land for oyster culture have been in effect in many of the principal oyster-growing states for some time. But it is only within the last few years that any measures have been taken to regulate the catch of oysters from polluted areas, or to prevent the sale of infected shell-fish in the local markets. Nearly all the more important oyster-growing states have caused their shell-fish grounds to be inspected by various authorities, but in most instances these inspections have been in the nature of hydrographic rather than sanitary surveys.

In 1901 the legislature of Massachusetts passed acts directing the State Board of Health to make annual examinations of the conditions about the main sewer outlets of cities and towns and to prohibit the sale of oysters and other shell-fish taken from polluted areas. The board was also empowered to examine all complaints relative to the contamination of tidal waters, and if necessary to fix the boundaries of such pollution, and prohibit the taking of shell-fish from areas thus defined. The Board of Health has made several extensive surveys of the productive localities, covering practically all of the shell-fish grounds of the state. These surveys include careful inspections of the shell-fish areas and the bacteriologic examination of several thousand oysters and many samples of sea-water. As a result of these investigations[5] approximately 1,500 acres of shell-fish grounds in Boston Harbor and 700 acres in New Bedford Harbor have been condemned, and the taking of oysters and other shell-fish from these localities prohibited by the fish and game commission acting under the direction of the board of health. A number of convictions have followed the violation of the above restrictions, and fines prescribed by law imposed. The situation in Massachusetts has been somewhat complicated by the passage of a bill in 1907, "permitting the taking of polluted shell-fish for bait on securing permits from the board of health, and providing heavy penalties for both buying and selling. As a matter of fact, it is well-nigh impossible to enforce this law . . . and complete prevention from the taking of such shell-fish is the only method by which the public health can be properly safeguarded."

A careful and thorough investigation of the whole problem of shell-fish pollution has been carried out by the Massachusetts Health Department during the last ten years, with the result that much of the very best work in this country along these lines has been done in the bacteriologic laboratories of the Lawrence Experiment Station. Up to the present year Massachusetts has been the only state to recognize the importance of this question sufficiently to legislate against the taking of oysters and other shell-fish from badly polluted areas, and to enforce its legislation.

In 1908 the State Board of Health of New York made an extensive survey of the more important oyster-grounds of the state. The outlets of sewers and all other possible sources of pollution as far as the oyster-beds were concerned were located; the effect of tides, currents and winds were studied in so far as the time at the disposal of the department permitted; and bacteriologic analyses of oysters and water samples from various localities along the New York and Long Island coast were made. The time at the disposal of the board for these investigations was somewhat limited, and[6] "while the results of the field and laboratory work are in close harmony, the studies can only be considered as preliminary, and as such the department is not warranted in passing final judgment on the results, for the purpose of administrative action." Yet a large percentage of the oysters examined bacteriologically would be considered polluted, if judged by the usual standards, on the strength of the figures published in the report of the board. The department of health has, however, been endeavoring to control the evident pollution of tidal waters under its jurisdiction and its "policy since 1905 has been that further and unrestricted pollution of the waters of the state should cease, and in so far as the department has the power, the existing discharge of raw and ineffectively treated sewage should as rapidly as possible be prohibited."

The sanitary aspect of the oyster industry in Virginia was investigated in 1909 by the state board of health in conjunction with the state board of fisheries. This investigation included a careful sanitary survey of all the oyster-growing districts of the state with the bacteriologic examination of representative samples of oysters and sea-water from all localities; also an examination of the method of handling oysters for shipment, shucking and packing, and of the alleged practice of "floating" of "drinking" oysters for the purpose of increasing the bulk of the product. The results of these

3. U. S. Dept. of Agri., Food Insp., Doc. 110, October, 1909.
4. U. S. Dept. of Agri., Food Insp. Doc. No. 121. May, 1910.
5. Report Fish and Game Commission on Mollusk Fisheries of Mass., 1909.
6. Twenty-Ninth Ann. Rep. N. Y. Dept. Health, 1908, p. 833.

investigations[7] show that the majority of the oyster-grounds of Virginia are "perfectly safe from a sanitary point of view. The streams condemned are small and constitute only a small percentage of the oyster-grounds of the state. Steps have already been taken to prevent the sale of oysters from these areas, and their sale will not be permitted in the future under any circumstances." In addition to the general survey of the oyster-grounds of the state, frequent inspections of the suspected localities are made by the department of health and the dairy and food commission, and planting in areas found to be polluted is prohibited by the local authorities acting on the advice of the inspecting boards.[8] Certificates of inspection are also issued by the department of health to approved grounds, stating that the grounds in question have been inspected by the department and found free from dangerous pollution; and that oysters taken from these grounds are safe for human consumption. The department of health has been very active during the past few years in controlling the hygienic condition of the oyster-grounds of the state, and has the problem well in hand. At the present time the sale of oysters taken from any territory known to be polluted is prohibited by law.

An act of the New Jersey legislature, in effect April 6, 1910, directs the board of health[9] "annually or oftener if the board considers it necessary, to inspect the oyster and clam beds within the state for the purpose of ascertaining the sanitary condition of the same." Official records of each inspection are kept and certificates setting forth the results of inspection are issued to the parties concerned. The taking of shell-fish from areas condemned by the board of health, with the intent to sell for food, is an offense punishable by a fine of $100.

The Dairy and Food Commission of Texas[10] makes annual inspection of the oyster-beds along the Texas coast, but there are no specific regulations applying to cases of shell-fish pollution.[11] The Texas pure food and drug law, passed by the legislature March 20, 1909, which is in the main a copy of the federal act, might possibly be construed to regulate the sanitary condition of the oyster industry of the state, but contains no specific reference to polluted oysters.

A sanitary survey of the oyster-grounds of Rhode Island was made by Fuller[12] in 1901-02. These investigations showed that the beds in the Providence River and upper portion of Narragansett Bay were badly polluted with sewage. There are, however, no state laws prohibiting the planting or dredging of oysters from polluted sources or their sale for food.

The surveys of the oyster-grounds which have been made in other states were mainly in charge of hydrographic engineers or biologists studying the problem of oyster-culture, so that little or nothing in the nature of systematic sanitary inspections has been accomplished. Various state laboratories have been called on from time to time to examine bacteriologically samples of oysters and other shell-fish for suspected sewage pollution, but up to the present year no systematic sanitary surveys of oyster-grounds, including the bacteriologic examination of oysters and other samples have been made except in the waters of Massachusetts, New York, Virginia and Rhode Island.

One of the most perplexing problems which has been brought up by the investigation of the pollution of shell-fish by sewage is the determination of accurate or safe standards of pollution. At the present time several state boards of health are independently making special efforts to formulate a series of tests by the application of which the analyst can determine with a fair degree of accuracy the amount of pollution of shell-fish and water and report correctly whether or not oysters taken from any given locality are safe for human consumption. In the main, these tests consist in bacteriologic analyses of samples of oysters and water from suspected grounds, with the purpose of determining the presence or absence of the colon bacillus, the characteristic organism of sewage.

Early investigations have shown that this organism is not normally found in unpolluted sea water or in shell-fish taken from unpolluted sources. In their report on the investigation of the pollution of shell-fish by sewage, the Massachusetts Board of Health[13] states that "the evidence gathered in this work is fairly conclusive that *B. coli communis* and the streptococcus are not normal inhabitants of the shell water or body of either oysters or clams, and that their presence there must be considered proof of pollution." At a later date, Gage[14] states that "*B. coli* and sewage streptococci are absent or present in only a small proportion of samples [of shell-fish] collected from sources remote from pollution. On the other hand, the test organisms are always present in a majority of samples from sources whose pollution is evident."

Fuller[12] in his study of the oyster-beds of Rhode Island, found that *B. coli* was not normally present in oysters or sea-water collected from localities remote from sewage pollution.

The results of the bacteriologic analyses of market oysters obtained by the Connecticut Board of Health are similar to the above.

After the examination of a considerable number of oysters from presumably unpolluted sources, the Virginia Health Department[7] concludes "that the colon bacillus is not found as a normal inhabitant of the oyster either of the natural fluid of the shell or of the intestine."

The investigations of Hewlett,[15] Klein[16] and Houston,[17] point toward the same general conclusions. Dr. Houston says, "As regards deep-sea oysters, results are not quite decisive, but point strongly to the conclusion that not only typical *B. coli* but as well coli-like microbes are absent from them."

Evidently the weight of opinion leans toward the view that the colon bacillus is not found in shell-fish under normal conditions, and that mollusks containing this organism must be contaminated. But it is obvious that longshore oyster-grounds, particularly those in the neighborhood of cities and towns, are rarely if ever free from sewage pollution to some extent, so that in the majority of cases in which the sanitary condition of oyster-beds is under investigation, the question of standards of pollution becomes rather a problem of determining the amount of pollution permissible without danger to health, than one of determining merely the presence

7. Bull. Va. Dept. Health, May, 1909, p. 308.
8. Communication from the Asst. Health Commr., Va., June 17, 1910.
9. Chap. 97, Laws of New Jersey, session of 1910.
10. Communication from Dairy and Food Commission of Texas, June 20, 1910.
11. Texas Pure Food and Drug Law, House Bill 28, March 20, 1909.
12. Fuller, C. A.: Appendix, Rep. U. S. Com. of Fisheries, 1904, p. 198.
13. Rep. Mass. State Board of Health, 1905, p. 449.
14. Gage, S. De M.: General Infectious Diseases, January, 1910, p. 78.
15. Brit. Med. Jour., 1903, p. 1082.
16. Fourth Rep. Royal Comm. on Sewage Disposal, 1904, ii, 61.
17. Fourth Rep. Royal. Comm. on Sewage Disposal, 1904, iii.

or absence of characteristic sewage bacteria in oysters and the water in which they grow.

Fuller[12] has regarded as polluted all shell-fish which were found to contain *B. coli*, but in the work in Rhode Island in 1901, he did not attempt to fix an arbitrary standard for the condemnation of oyster-grounds, beyond the determination of the presence or absence of sewage pollution as indicated by the bacteriologic analysis of these shell-fish for *B. coli*.

Conn[18] has regarded "all oysters contaminated which have shown the presence of *B. coli*." This "work has been on market oysters and not on oyster-beds" so that "no rule as to the proportion of contaminated oysters necessary to condemn an oyster-bed has been formulated" by him.

The New York Board of Health[19] did "not attempt to fix standards of pollution" deduced from their own experiments, merely "tabulating their results on the basis of the relative conditions as found" and using the "assumed standards" of other bacteriologists.

The federal government[3] has recognized the possibility of fixing a standard of shell-fish pollution by the food inspection decision of Oct. 14, 1909, in which it is stated that "the pollution of oysters with sewage can be readily detected by bacteriologic examination."

The Massachusetts State Board of Health has made a more thorough and systematic investigation of the whole problem of shell-fish pollution than the other health departments in this country, and for this reason the opinion of the Massachusetts authorities on this question is frequently sought by outside laboratories. And up to the present time standards for judging the sanitary condition of shell-fish which have been worked out by the Massachusetts board have been used in many of the bacteriologic laboratories in the United States. The position of the Massachusetts Department of Health on this question has been stated by Gage[14] as follows:

> With a sufficient number of samples the absence of *B. coli* or of positive fermentations followed by an overgrowth of streptococcus can be safely taken to indicate freedom from pollution, and when ten individuals are tested, a negative test in eight out of ten or 80 per cent. of the samples, can be assumed to be an indication of reasonable safety. Under the same conditions, a positive test in 50 per cent. or more of the samples must indicate pollution of a more or less dangerous character. Between these extremes, the interpretation is a question of individual judgment for which no hard and fast rules can be made.

In these tests the water within the shells and the intestinal content of suspected specimens are tested by the usual methods of water analysis.

The above statements unquestionably represent the fairest grounds that can be taken on this important question with the present knowledge of the subject. The examination of single specimens of shell-fish can have no more value than the bacteriologic analysis of isolated samples of water from unfamiliar sources. Sanitary inspection of the grounds themselves is often of greatest service in interpreting the results of laboratory analyses, and sometimes absolutely necessary in order to form a correct judgment when the bacteriologic examinations are of a doubtful character.

The period is distinctly constructive in tendency. Much work on the problem of shell-fish pollution is now in progress in American laboratories. Massachusetts and Virginia have been most active and apparently have the problem well in hand. New York has made a preliminary survey of its oyster-grounds, but the department of health does not feel that it has done sufficient work to warrant the fixing of definite standards of shell-fish pollution. New Jersey[20] is now taking active measures to control the hygienic condition of its large shell-fish areas. The shell-fish commission of Rhode Island is now making a very comprehensive survey of the waters of the state. Connecticut[18] is about to commence a sanitary survey which will cover all the tidal waters of the state. The Maryland Health Department[21] is examining bacteriologically various samples of market oysters but have formulated no standards of pollution. The present year will unquestionably be productive of important results which will add to the knowledge of the problem of shell-fish pollution and aid in formulating a more accurate and safer standard of pollution.

NOTE: Since the preparation of the above paper, the results of several laboratories, which have been engaged on oyster work during the past year, have been presented at the meeting of the American Public Health Association. The situation was carefully gone over and proposed standards of purity discussed. Among the more prominent of these was that recommended by the United States Bureau of Chemistry which has in charge the bacteriologic examination of oysters and other shell-fish for pollution under the food and drug acts of 1909-1910. This standard condemns all oysters in the shell which "show the presence of *B. coli* types of organisms when present in three out of five oysters in 0.1 c.c. of the shell liquor. These examinations are supplemented by an inspection of the beds from which the oysters were obtained, also by the bacteriologic examination of the water bathing the oysters from these localities.[22] The government has prevented the shipment and sale of several lots of these shell-fish which have not come up to the standard.

The survey of the oyster-grounds of Rhode Island has also been completed. The state shell-fish commission has used the federal standard of purity in interpreting the results of bacteriologic analysis and has condemned and refused certificates of inspection to more than half the oyster-grounds of the state, comprising an area of over 3,000 acres of cultivated oyster-grounds. About 25 per cent. of the beds were passed conditionally, subject to later inspection. Official certificates of inspection were issued by the commission only to grounds which came up to the federal standard of purity.

While a number of bacteriologists have employed the standard of the federal government in judging the sanitary condition of oysters, the general opinion of the American Public Health Association seems to be that it is too high. The committee on standard methods of analysis failed to recommend a definite standard of purity for shell-fish analysis since they felt that further investigation of the problem must be carried on before they were warranted in adapting any definite standard. The federal standard is a tentative one and "as yet there are no established standards for the bacteriologic examination of shell-fish."[2]

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**Acid Intoxication in Cholera.**—During the stage of reaction in cholera it is not uncommon to see an almost abnormally bright color of the mucous membranes associated with a type of dyspnea approaching air-hunger. Such patients usually have either a partial or complete suppression of urine and an increase in the blood-pressure, which is sometimes as high as 200 millimeters of mercury. In cholera the symptoms of acid intoxication become so intimately related to those of uremia that differentiation is hardly possible. Indeed, it has been suggested by Senator that uremia from any cause whatsoever is only an acid intoxication.—A. Watson Sellards, in *Philippine Journal of Science.*

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18. Communication from bacteriologist, Conn. Board of Health, July 21, 1910.
19. Twenty-Ninth Rep. N. Y. Dept. of Health, 1908, pp. 846 and 856
20. Communication from Chief of Div. of Food and Drugs, N. J., July 18, 1910.
21. Communication from the Bacteriologist, State Dept. of Health, Md., July 21, 1910.
22. Communication from U. S. Bureau of Chemistry, Dec. 21, 1910

## THE PLAGUE IN NORTH CHINA

J. J. MULLOWNEY, M.D.
PEKIN, CHINA

The plague is very properly divided into three types: the bubonic, or that from affecting the lymphatic system which is usually the most common type; the septicemic, or that affecting the blood-system; and the pneumonic type, or that affecting the lungs more especially. The latter two types are usually most fatal.

The epidemic which was, in January, 1911, overrunning North China was of this last type—the pneumonic type—largely and of excessive virulence; although there were, as in all epidemics of this disease, some cases of the other two types, and more of the septicemic type than of the bubonic type. So far as our experience here is concerned—and that experience is confirmed by reports coming from other infected regions—scarcely any who have taken the disease have recovered.

The disease, so reports have it, has been found in sporadic cases, and even in small epidemics in southern Russia for several months, but the Russian authorities took strenuous methods to eradicate it and they had got it fairly well under control in Russia when in November, 1910, it was found to have come to Harbin. Harbin is in Manchuria, which, as is well known, is under the control of the Chinese government. Harbin is moreover on the Trans-Siberian railroad.

It is interesting to know how the disease got to Harbin. It is now believed that the disease was brought to Harbin through the infected hides which hunters and trappers brought to Harbin for market. It is known now that there was an epidemic among a certain fur-bearing animal, an animal something like the American muskrat, which the hunters of the north kill for the hides and sell in large quantities at Harbin. It has been found that the disease among these animals was due to plague; and the furs brought to Harbin for sale are believed to have brought the infection. Whether this be absolutely true, or whether the disease was brought to Mukden, Shanhaikwan, Tientsin, and Pekin through persons traveling on the railroad cannot be stated definitely. The fact is that Harbin was the original hotbed of the disease. It spread from there in all directions, usually following the lines of traffic, the principal of which is, of course, the railroad. The city of Harbin is divided into a Russian, a Japanese, and a Chinese part. The Russians and the Japanese took strenuous measures at once to stamp out the disease in their quarters, and they have it well under control, in their respective parts of the town; but the Chinese problem was a much more complex one, and their people much more numerous and perhaps less enlightened; consequently, the disease got beyond their control and it was from the Chinese native city of Harbin that the disease spread. The thing to do would have been to stop all railroad traffic from that city early in the epidemic, but that meant, of course, great loss of money and much inconvenience; so it was allowed to go on until, I fear, it was too late, for this disease in January was found as far south as Chefu, and had got to several towns some distance away from the line of the railroads. This meant that it would spread inland, for the Chinese villages and towns are numerous and usually not far apart in this region, so that people traveling by cart and on horseback would spread it to other inland villages.

If the disease gets to Central China, where the climate is warm and damp, it will find a soil excellently adapted for the spread of the disease. It may die out here in the North with the coming of the warm dry season, but with the coming of the wet season again it will be, doubtless, brought up from the south and central provinces again and practically become endemic unless the Chinese authorities employ most stringent methods to check the spread of the disease at once. It is due to them to say that they were in January rushing both foreign and Chinese doctors and assistants to the cities of Harbin, Mukden, Shanhaikwan and Tientsin, which are the largest cities on the line of the Imperial Chinese and the Manchurian railroads, but I fear that they waited too long. January is a most advantageous time of the year for the spread of the disease, for thousands of coolies at that time are returning from Manchuria to the provinces of Chili, Shantung, etc., after having spent a summer and fall in earning their bread in the wheat fields or lumber forests of Manchuria, and also because it is just about the time of the Chinese New Year, when every Chinaman who can returns to his home for the festive season.

But to get down to a few more specific data about this epidemic: 1. The disease started at Harbin. Up to January 24, 1911, about 1,500 Chinese and twenty-seven Europeans had died, of whom two were physicians and one an assistant. 2. The disease is met with, mostly, in the pneumonic and septicemic types. 3. Inoculation with Haffkine's antibubonic vaccines seems to be of considerable value as a prophylactic measure. 4. The administration of Yersin's serum in treatment does not seem to be of much value, although it should be said that it has not been given a full trial. If it were possible to take, say, forty or fifty cases and administer the serum to the patients and compare them with a like number that had not had the serum, we could say something more definite, but so far as I am able to learn this has not been done in this epidemic. 5. It has been conclusively shown that the disease, in the pneumonic form, is transmitted by the sputum and by contact with persons sick of the disease, and that the wearing of respirators is good prophylaxis. 6. The rat, or the rat flea, does not seem to have nearly as much to do with the spread of the pneumonic type of the disease as it has in epidemics of the bubonic type. 7. So far as I am aware this is the first definite epidemic of the pneumonic type of the bubonic plague. 8. The disease spread along the line of railway traffic from Harbin to Mukden, to Shanhaikwan, to Tientsin and to Pekin and to several smaller places. It also got to Chefu, which is a seacoast town, probably through some Chinese coolies returning from the North in a Chinese junk or fishing boat.

Hopkins Hospital, Methodist Mission.

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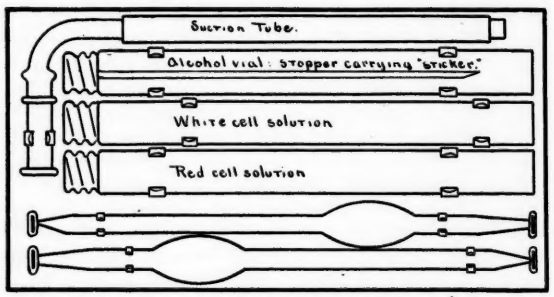
## A HANDY POCKET CASE FOR BLOOD PIPETTES AND SOLUTIONS

WALTER S. SUTTON, M.D.
KANSAS CITY, MO.

The inconvenience of carrying about the usual blood-pipette case and separate solution bottles has resulted in many efforts on the part of pathologists, hospital interns and others to devise a convenient means of collecting and carrying pipettes and smears of blood. The device herewith figured meets all the requirements in perhaps the smallest possible space, since the entire outfit may be comfortably carried in the vest pocket. As is easily seen from the illustration, the set contains two pipettes, a 2-dram bottle of alcohol in the stopper of which is mounted a long cutting-edge needle, two

2-dram bottles containing diluting fluid for red and white cells respectively, and the usual rubber suction-tube. These are held in place on a thin metal plate by appropriate clips. The pipettes have in addition end-clips, each shod with a piece of soft rubber tubing, which, by pressing against the ends, prevent leakage from the filled pipettes. These, however, may be omitted in favor of short rubber caps for the pipette-ends, or of the time-honored rubber band stretched over the pipette from end to end. The straight portion of the suction-tube lies in a short piece of brass or copper tubing soldered to the metal plate.

I use two 1 to 100 pipettes, making either red or white counts with either pipette. Thus, the case will provide for two red-cell counts, two white-cell counts or




Handy pocket case for blood pipettes and solutions.

one of each. Slides or cover-glasses for blood-smears are carried in the case simply wrapped in tissue-paper. The metal plate which carries the outfit is preferably fastened to the cover of the case, since the fastening prevents breakage and the low edges of the cover do not interfere with the removal of the pipettes or bottles from their places. The advantage of the clean needle continuously immersed in alcohol over the usual unclean pocket "sticker" need scarcely be mentioned. The actual size of the case is 4¾ by 2½ inches and the depth ⅝ inches.

Dr. F. Hecker has made the useful suggestion that if the depth of the case were slightly increased a Sahli hemoglobinometer might be added to the outfit.

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## PNEUMOCOCCEMIA; BILATERAL EMPYEMA; RECOVERY *

EDWARD A. ARONSON, M.D.
AND
HARRY OLSAN, M.D.
Adjunct Attending Physician at Mount Sinai Hospital; Intern at Mount Sinai Hospital
NEW YORK

*Patient.*—M. D., a boy aged 4½ years, was admitted to Mount Sinai Hospital June 14, 1910. He was the second of four children. The mother had had no abortions; father denied syphilis; the other children were all healthy. The delivery of this child was normal; it was breast-fed, and always well up to time of its present illness.

*Present Illness.*—This began with an eruption four weeks before admission. This eruption was described by the father as a "red shine." At the onset there was fever but no vomiting. The duration of the fever was not noted, but the child appeared well enough two weeks later to be taken out and exposed to cold, which was followed by elevation of temperature, slight cough, generalized edema of the face and body and bloody urine. A physician, called in for the first time on the latter occasion, diagnosed the condition as postscarlatinal. The child did not improve and was admitted to the hospital two weeks later, June 14.

*Examination.*—On admission physical examination showed that the general condition of the child was very poor; there was marked apathy, and extreme dyspnea and cyanosis. In short, the child looked almost moribund. The throat showed slight reddening. The chest showed marked inspiratory retraction of the lower ribs.

Lungs: The lungs anteriorly were negative; posteriorly the right lung showed flatness over the entire chest almost to the apex; breathing was diminished above, absent below. On the left side there was dulness from the angle of the scapula to the base, where it became flatness; no breathing at the base.

Heart: The apex beat could not be made out; right border, mid-sternum; left border, one finger-breadth outside of nipple line; action was regular, rapid, and of small force, and the pulse was of correspondingly poor quality.

Abdomen: Slightly distended and tympanitic; no tenderness anywhere.

Liver: Fifth space above and felt three finger-breadths below the free border of the ribs; edge sharp and not tender.

Spleen: Palpable one finger-breadth below free border of ribs.

Skin: A few small pustules over the chest, and the abdomen was covered by a number of dry crusts. Desquamation was noted on palms of hands and soles of feet.

There was some glandular enlargement.

Urine: Normal, grossly and microscopically.

Blood-Count: Leukocytes 23,800; polynuclears 82 per cent.; large lymphocytes 5 per cent.; small lymphocytes 11 per cent.; large mononuclears 2 per cent.

At the time of admission the pulse was 128; respiration 58; and temperature 101.4 F.

A bilateral empyema was suspected and then confirmed by aspiration.

*Treatment and Course of Disease.*—On account of the patient's poor condition, it was decided to relieve him at once, at least temporarily, by aspirating the left chest; ten ounces of pus were withdrawn. This afforded him some relief but four hours later, under local anesthesia, an intercostal incision was made by Dr. Leo B. Meyer, the surgeon in charge of the service, and pus was evacuated; a drainage-tube was inserted, and the patient reacted well after the operation. The child's condition precluded any more radical procedure than simple incision.

June 17, two days later, the patient's condition became very poor again; the dyspnea increased and the temperature ran up to 104.2 F.; respiration 60 and pulse 160. The left side was discharging freely, but owing to his poor condition, we decided to resect a rib on the right side two fingers below the angle of the scapula. This was done without anesthesia, by Dr. Meyer. Drainage was introduced and the wound dressed.

June 18: Patient's condition improved; respirations less labored, and pulse still rapid. The patient did fairly well for the following ten days when the temperature began to rise again, although both sides were discharging freely.

June 1: General condition poor; patient complained of some pain in the right hypochondrium and some tenderness in this area. Wounds look clean and are discharging quite freely.

July 4: Temperature 103.6 F.; pulse 140; tenderness over the whole liver area, some bulging in the lateral aspect of the upper right abdomen.

July 6: On the fifth the temperature dropped from 103.8 to 97.4 F.; general condition very poor; heart irregular at times; quality of pulse fairly good; liver area remained about the same. There was a swelling in the right cheek directly over the superior maxilla, showing slight fluctuation.

July 8: The face swelling increased in size, and was incised through the mouth. A large amount of very foul pus was evacuated. This pus contained a large number of saprophytic bacteria. A blood-culture made showed the presence of pneumococci.

* From the Isolation Service, Mount Sinai Hospital.

July 11: Owing to the frequent variation in temperature and the persistent tenderness in the right hypochondrium, the right subphrenic space was repeatedly aspirated, but no pus was found.

July 13: General condition somewhat worse; marked cyanosis and dyspnea noted; wound of the right cheek drained well. The lung signs showed dull tympany over the front of both lungs, some dulness and even flatness behind with numerous fine crepitant râles over the whole lung area. The heart was negative. The child was unable to sit up without apparent pain and difficulty in breathing. Lying on the right side caused the child to cry out and become markedly dyspneic and cyanotic. The liver was enlarged and tender, though somewhat less so than formerly. The bulging over the liver area was unchanged; spleen still palpable.

July 19: Until this time the child was in fair condition, but on this day the temperature rose again to 104 F.; this rise was due to retention of pus on the right side. The pus was evacuated and the wound drained.

July 27: A second blood-culture showed the absence of pneumococci.

July 29: Temperature rose on this date, due to retention of discharge.

August 1: Condition better; liver tenderness less marked; heart action rapid, regular, and fair. Dr. A. V. Moschcowitz was asked to see the patient on account of suspected subphrenic abscess. His opinion was that there was retention above the diaphragm, and he advised more complete drainage. This was done and the signs rapidly cleared up.

August 10: The condition of the wound on the right side was very much improved; probe could still be introduced for several inches; discharge was slight and of a serous character.

August 13: Discharge had entirely ceased; wounds closed; liver tenderness had disappeared and the child was discharged cured.

A study of the case shows the following facts: 1. The child had scarlet fever. 2. Two weeks after the onset of the first symptoms he was probably exposed to a pneumococcus infection. 3. On admission there was no evidence of pneumonia, but of a bilateral empyema. 4. A pneumococcemia was shown by a blood-culture taken on July 8. 5. There was a possible metastasis in the cheek. Recovery ensued.

We find that the presence of scarlet fever was shown by the history of a rash, and of a general edema, and by the desquamation of the hands and the soles of the feet on admission. Many authors make but casual mention of the occurrence of empyema after scarlet fever, although we do know that it may occur after any of the infectious diseases. While empyema is of frequent occurrence, bilateral empyema is rather rare and varies according to different authors. We can say, however, that it occurs in from 1 per cent. to 3 per cent. of all cases of empyema. The pus in empyema following scarlet fever most frequently contains the streptococcus or the staphylococcus, and less often the pneumococcus, which, if present, may follow as a result of a pneumonia complicating the scarlet fever. As to the pneumococcus infection, we have a history of probable exposure to the pneumococcus two weeks after the onset of the first symptoms. The patient may, at that time, have had a pneumococcus infection of the lung, of which on admission, two weeks later, there were absolutely no signs.

Endeavoring to account for the pneumococcus infection, we find that our patient was exposed two weeks after the onset of the scarlatinal symptoms. We know that the pneumococcus inhabits the normal throat. Taking into consideration the diminished resistance of the child following scarlet fever, plus these pneumococci, (which, as Arnold and Grawitz have shown, can pass through the lung tissue and into the pleural cavity without infecting the lungs), plus a hydrothorax accompanying the general edema, we can perhaps conclude that the pneumococcus empyema possibly followed such an infection.

Desguin, in his excellent monograph,[1] says that a pneumococcus infection of whatever part of the body is always accompanied by a pneumococcemia. He states further that the pneumococcemia may precede the appearance of a local lesion. As the presence of the pneumococcus in the blood is not a normal condition, in our case the micro-organism may have entered the blood from the congested throat usually seen in scarlet fever. From this it may also be possible that the empyema was secondary to the pneumococcemia. We must not lose sight, however, of the fact that there may have been a preceding pneumococcus pneumonia followed by empyema, although from the history and the signs on admission this could not be positively determined. The empyema was confirmed by the aspiration of pus from both sides of the chest, each of which showed the presence of pneumococci as reported by the pathologic department: Pus from left chest: pneumococcus, polynuclears 100 per cent.; pus from right chest: pneumococcus, polynuclears 97 per cent., lymphocytes 3 per cent.

The first blood-culture also showed the pneumococcus as seen from the following report: Culture made by Dr. Olsan July 8, 1910, 5 c.c. of blood being used. This blood was incubated partly in glucose-bouillon, partly in agar, and partly in 2 per cent. glucose-agar. In all the media pneumococci were found, there being on solid media seven colonies to the cubic centimeter of blood. The organism was typical in every respect. This culture was found positive six weeks after probable infection, which is an unusually long time for a pneumococcemia to persist, according to Desguin. A second blood-culture was made by Dr. Celler July 22, 1910, 5 c.c. of blood being used. This was incubated in glucose-bouillon, in agar, and in glucose-agar. All the media remained sterile, the time of observation being six days.

At the time the face induration appeared pneumococci were still probably present in the blood, and although pneumococci were not recovered from the pus evacuated from the swelling, owing to exuberant growth of saprophytic bacteria, there is a strong likelihood that this focus can be considered a metastasis. Two weeks after the first culture was made, a second was taken and found to be negative. At the time the general condition of the boy improved considerably, and although at times there was a tendency for the temperature to rise again it was always found to be due to slight retention of pus. Dr. Meyer in his comment on the case says, that from the surgical standpoint the method of treating a bilateral empyema is of interest, especially if the patient is in as bad a condition as this one was. To have opened the two sides of the chest at the same time would probably have been fatal. Incision and drainage of one side so as to give the child some lung with which to breathe, and to permit some lung expansion on one side before opening the other, seems to be the best method of procedure. If the child's condition had not been so desperate, rib resection would have been performed at the first operation, but the first consideration was to get the chest opened and drained and the child removed alive from the operating-table.

As a matter of fact, in young infants, intercostal incision is frequently sufficient and is certainly worthy

1. Desguin: La septicémie à pneumococques, 1908.

of a trial as being the simpler operation. In this case drainage was as satisfactory from simple incision as from the site where the resection was done. Up to this time, three months after discharge from the hospital, the boy has remained entirely well.

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## FRACTURE OF THE CLAVICLE

### ITS DIAGNOSIS BY TRANSMISSION OF RESPIRATORY SOUNDS *

SEWARD ERDMAN, M.D.
Adjunct Assistant Surgeon to Bellevue Hospital; Assistant Attending Surgeon to Lincoln Hospital
NEW YORK

In a paper, read before The Society of Practical Medicine in May, 1907, entitled, "Diagnosis of Fracture of the Clavicle by Auscultation of Voice and Breath Sounds," I called attention to the fact that in normal individuals there is distinct transmission of both voice and breath sounds probably from the trachea, outward along the shaft of the clavicle to its outer extremity.

When a small-belled stethoscope is accurately applied to the outer extremity of the clavicle, breath sounds and voice sounds of a distinctly bronchial or tracheal quality are to be heard.

In a series of over 300 normal persons thus tested, it appeared that the whispered voice was the most reliable test and that in over 95 per cent. of all the cases a more or less intensely bronchial whisper could be heard over the acromial end of the clavicle.

In over two-thirds of the cases the spoken voice as well as the whisper was of this quality, and audible. In about one-third of the cases the respiratory murmur was distinctly audible and of this bronchial character, in addition to the spoken and whispered voice.

It was also noted that the transmission of these sounds was limited very strictly to the area over the shaft and outer extremity of the clavicle, and that if the stethoscope were moved even one-half inch forward, or outward, or backward, away from the clavicle, the sound transmissions were lost or so completely modified as to offer a clear demarcation.

Conclusions: Granted that there exists normally a transmission of voice sounds from the trachea outward along the clavicle, a fracture of the bone should cause a break in sound propagation; and such is found to be the case.

In the series of fifteen cases reported at that time, the results were most striking, for, in all these cases of fracture, there was complete loss of these auscultatory signs on the injured side, in contrast to their presence on the normal clavicle. In one case of green-stick fracture, the intensity of the sounds was very much diminished although they were not entirely lost.

As bony union takes place, there is a gradual return of these signs, but this does not seem to occur until after the fourth week from the time of fracture.

In cases of prominence of the inner fragment of the clavicle, it is often very easy to place the stethoscope over this fragment and to recognize clearly the sounds which no longer are audible over the outer fragment.

#### TRANSMISSION OF FREMITUS

Since writing the above-cited paper, I have made use of a still simpler method, based on the same principles, but dependent on the fact that vocal "fremitus" is likewise transmitted along the clavicle unless there be a break in the continuity of the bone.

Whereas the diagnosis with the stethoscope as above mentioned can usually be made, nevertheless there are a number of patients, especially children, who apparently cannot whisper and thus the test is rendered unsatisfactory; or there is difficulty in applying the stethoscope.

On the other hand, the recognition of vocal fremitus by the palpating finger is more easily attained and even the cries of the youngest child afford means for this test.

#### METHOD

The examiner stands directly behind the patient, who should best be seated on a plain stool or chair. Place the thumb or index-finger of each hand on the corresponding clavicle of the patient, and without pressure.

Commencing near the sternal end of the shaft of the clavicle gradually move the examining fingers symmetrically outward along the clavicles while the patient repeats some sonorous words, e. g., "ninety-nine, ninety-nine, etc."

In the absence of a fracture the palpable fremitus will be easily detected and of equal intensity on the two sides, all the way out to the extreme end of the bone.

If there be a complete fracture, the fremitus is suddenly lost or very greatly lessened at the point of fracture and beyond. So delicately may this sign be elicited that it is often possible to follow accurately the obliquity of the line across the shaft at the point of fracture.

The normal fremitus of the whole scapular region and chest is very different in intensity and is easily distinguishable.

#### VALUE OF THE METHOD

In many cases of fracture of the clavicle, inspection alone, or the most superficial palpation, reveals without difficulty the presence and the site of the break, and no further examination is necessary; but for the above method I claim the ease with which the signs are to be elicited, the freedom from painful palpation of the fractured bone, and its great value as an aid in the diagnosis of the cases in which the fracture is in the outer end or in the shaft without deformity, and in all doubtful cases.

#### LITERATURE

Auscultation to elicit crepitus at the site of fracture has long been in use, especially for fracture of the ribs; but in 1893, Vajana[1] of Palermo described a method for diagnosis of fractures of many of the long bones and bones of the skull by combined percussion and auscultation.

The stethoscope is placed on a subcutaneous portion of the bone and, with the plexor and pleximeter, percussion is now made at points along the bone in all directions from the stethoscope, and when a line of fracture is crossed there is loss of the sound transmission.

In 1902, J. Plesch[2] of Budapest, described the same method as original, having doubtless overlooked Vajana's communication.

A. H. Andrews[3] suggests the use of the tuning-fork instead of the plexor and pleximeter.

* Comunication received July, 1910, for publication.

1. Riforma med., June, 1893, ix, part 2, p. 651.
2. Ungar. med. Presse, August, 1902, vii, 497.
3. Chicago Med. Recorder, 1903, xxiv, 182, 185.

However, in the case of the clavicle, neither percussion nor tuning-fork is necessary, for the vocal and respiratory organs by way of the trachea, which is so close to the inner end of the clavicle, furnish all needed vibrations for our test, and, moreover, these are transmitted in a uniform direction, outward.

32 East Seventy-Sixth Street.

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## TUMOR IMPLANTATIONS IN THE DEVELOPING EMBRYO

### EXPERIMENTS WITH A TRANSMISSIBLE SARCOMA OF THE FOWL*

PEYTON ROUS, M.D., AND JAMES B. MURPHY, M.D.
NEW YORK

The fate of tumor cells implanted in the developing embryo has from several points of view a considerable interest. The superficial similarity between neoplastic cells and the cells of embryonic tissue is striking; and it has given rise in part to a widely discussed theory of tumor origin. While this theory well explains a certain class of congenital growths, its more general applicability is questionable. But there is no doubt that the parallel study of embryonic and neoplastic cells can throw much light on important problems of growth.

### MATERIAL USED

The implantation of tumor in developing embryos does not seem to have been accomplished heretofore, despite the evident bearing of such an experiment on the supposition that all tumors are of congenital origin. Indeed, it is most difficult with mammalian material, although we have found it not impossible. After laparotomy of the pregnant rat under ether, a fine, hollow needle is run for some distance in the uterine wall, and thence into the amniotic sac and embryo. When the needle is withdrawn after the injection, there is usually little loss of amniotic fluid. But the percentage of failures from one cause and another is high, and since it is necessary for the survival of the injected embryo that it be large, birth takes place before the tumor has opportunity to grow.

The difficulties are less with developing hen's eggs and a transmissible avian sarcoma.[1] But before describing our results mention should be made of a unique and significant finding recently obtained with this tumor, and now repeatedly observed. It is transmissible to new hosts by means of a filtrate free of the tumor cells.[2] The tumor has also been successfully transmitted in adult fowls by means of dried material kept at room temperature for three days. Nevertheless the growth metastasizes by the proliferation of transported cells and its tissue is in the strict sense transplantable.[3] Indeed, it exhibits to a special degree, not merely a few, but all those features by which the malignant neoplasms are characterized.

### METHOD

For the inoculation of the sarcoma into developing chick-embryos, we have slightly modified a method devised by Peebles[4] for another purpose. A small window is cut in the egg-shell, a smaller one torn in the shell membrane, and through a needle a minute portion of the finely divided tumor is injected into the chick, now plainly visible. The window in the shell is then closed, preferably with the piece first cut out, and is sealed with strips of moist shell membrane.

When the operation is conducted carefully and with sterile instruments, many of the embryos continue to develop. The eggs used were laid by pure-bred fowls of the variety most susceptible as hosts for the tumor, namely, barred Plymouth Rocks. At the time of inoculation, the embryos were from six to sixteen days old. Most of our observations thus far have been on tumors in the embryonic membranes, because here even small growths are sharply defined and easily accessible. Furthermore, it is difficult to inoculate the embryo without at the same time inoculating the membranes pierced by the needle.

### GROWTH IN THE EMBRYO

When an egg is opened on the sixteenth day of incubation, and a week after a successful tumor inoculation, one observes a slight puckering and opacity where the needle was thrust through the outermost embryonic membrane (fused chorion and allantois). From without no tumor is visible, but on cutting and turning over the membrane, there is usually found on its inner surface at the scarred spot, a sessile nodule like a flattened sphere, of which practically the whole bulk projects into the allantoid cavity. The mass is firm, yellowish or grayish white, nearly opaque, with extremely well-defined contour. Dilated blood-vessels converge to, and course over it. The tumor, after only seven days' growth, may measure 1.2 cm. in diameter, and it is extremely striking to see so large a mass dependent on a filmy membrane for support and vascularization. Scattered near by are perhaps a few small nodules, 0.1 to 0.2 cm. broad, and sometimes others lie in the deeper membranes. In the embryo tumor masses are found along the track of the needle. Our observations on them have been few as yet. In the best instance found thus far—that of a nineteen-day embryo inoculated a week previously—a large mass lay in the chest wall and projected inward toward the heart. Sessile on this organ was another mass, and two smaller ones were embedded in the liver substance. All were invading the surrounding tissue.

We have once found a "rice-body" free in the fluid between the membranes. It was made up entirely of living and dividing tumor-cells, was unprovided with blood-vessels, and was quite bare of endodermal or ectodermal covering.

### GROWTH CAUSED BY A CELL-FREE FILTRATE

Some Ringer's solution in which ground tumor had been suspended and shaken, was passed through a Berkefeld filter impermeable, under the same conditions, to *Bacillus prodigiosus*, and of the resulting fluid, small portions were injected into developing eggs. In one, after the lapse of thirteen days, small, discrete tumor nodules were found on the membranes. A microscopic examination of these well demonstrated the specific action on connective tissue of the agent causing the growth. The fluid had been injected into an extra-embryonic body cavity at a time when it was lined by mesoderm, and the tumors occurred as localized growths in this mesodermal lining. Some of them, like the mesoderm about them, were still bare of any covering on one side. During our experiments the ectoderm and endoderm have been often injured and presumably

* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

1. Rous: Jour. Exper. Med., 1910, xii, 696.
2. Rous: Transmission of a Malignant New Growth by Means of a Cell-Free Filtrate, THE JOURNAL A. M. A., Jan. 21, 1911, p. 198.
3. Rous: Metastasis and Tumor Immunity with a Transmissible Avian Neoplasm, THE JOURNAL A. M. A., Nov. 19, 1910, p. 1805.
4. Peebles, F.: Arch. f. Entwcklngsmechn., 1908, vii, 405

brought into association with the agent causing the growth, but they have never undergone a neoplastic change.

HISTOLOGY OF THE GROWTHS

The tumors obtained on implantation resemble microscopically those in adult fowls except that the cells lie in a loose reticulum and are often of most attenuated spindle form. Slight variations occur in the morphology of the different growths, owing presumably to variations in the implanted material. But the cells are of one type, growing in a diffuse mass; and a cellular reaction is quite absent from the normal tissue round about. In general appearance the tumor cells are markedly different from those of the normal embryonic connective tissue next to them.

SUSCEPTIBILITY OF THE EMBRYO

Some embryos are naturally resistant, as are some adult fowls, and tumor implantation in them fails of success; but in most, the growth greatly surpasses that seen in adult hosts. This refers only to tumors in the embryo's membranes, since the implantations in the embryo's body have been as yet too few for a generalization. But there the findings will probably be the same. It is well known that young animals form more favorable hosts for transmissible tumors than do old. One of us has recently investigated the point further by inoculating with tumor many new-born rats and mice. These showed themselves much more susceptible than control animals three-fourths grown.

Sixty-Sixth Street and Avenue A.

## PRIMARY ORCHITIS WITH SECONDARY PAROTITIS

THE REVERSE OF METASTATIC MUMPS

J. F. TORPEY, M.D.
NEW HAMPTON, IA.

The case in question is that of a young man, aged 18, in high school.

Dec. 3, 1910, the patient was found in bed with temperature 101 F., pulse 90, complaining of pain and tenderness in the left testicle. I questioned him as to his having had mumps recently, the disease being prevalent at this time. He denied ever having had mumps, lues, gonorrhea, tuberculosis or having received any injury, and could not in any way account for his present trouble.

On examination, I found the left testicle very tender, quite tense, and swollen to about twice its normal size, with no evidence of the usual causes of this condition. My opinion at the time was that the patient must have had a mild attack of mumps, and that his present condition was the sequel. On the usual line of treatment he seemed to improve. Six days afterward the right testicle became swollen, much the same as the left one had been. This condition lasted for seven days, and the patient was feeling pretty well when he noticed a slight swelling below each ear, in the angle of the jaws, accompanied by considerable pain. The parotid glands became very much swollen, and the patient developed a classical case of mumps.

When I last saw him sixty days after the first symptom of orchitis appeared the testicles were nearly normal. Although he wore a suspensory, he felt that he could dispense with it.

Having excluded, so far as I knew, the ordinary causes of orchitis, with one testicle involved at a time, and the parotid glands becoming involved so soon after the orchitis, I arrived at the conclusion that the order of metastasis in mumps had been reversed in this case.

I have not been able to find a parallel case.

## THE STIMULATION OF ADRENAL SECRETION BY EMOTIONAL EXCITEMENT*

W. B. CANNON, M.D., AND D. DE LA PAZ
BOSTON

Dreyer's demonstration that splanchnic stimulation increased the content of epinephrin in blood from the adrenal veins has been confirmed by several observers. Adrenal secretion therefore is under control of the sympathetic system.

Major emotional disturbances indicate the dominance of sympathetic impulses. In the cat, for example, fright causes dilatation of the pupils, inhibition of the stomach and intestines, rapid heart, and erection of the hairs of the back and tail. Do not the adrenal glands share in this wide-spread subjugation of the viscera to sympathetic control?

To try this suggestion the inhibition of contraction in strips of longitudinal intestinal muscle, sensitive to epinephrin 1 to 20,000,000, was used as a biologic test. Blood was obtained from the cat when quiet, and again after the animal was excited by the presence of a barking dog, by introducing, through the femoral vein, into the inferior vena cava to the region of the liver, a small catheter lubricated with petrolatum. The blood thus obtained was defibrinated and applied to the intestinal strip at body temperature.

After an initial shortening the strip contracted rhythmically in blood from a quiet animal. In no instance did such blood produce inhibition. On the other hand, blood taken from animals after the emotional disturbance showed more or less promptly the typical relaxing effect. As the emotional period was prolonged, the effect became prompter and more profound.

The view that inhibition of the contracting intestinal strip is due to an increased epinephrin content is justified for the following reasons: 1. The effect was obtained in blood from the vena cava near the liver when that from the femoral vein taken simultaneously produced no inhibition. 2. Removal of the adrenal glands after tying the adrenal vessels resulted in a failure of excitement to produce the effect. 3. Adding varying amounts of adrenalin to inactive blood evoked all the degrees of relaxation that have been observed in excited blood. 4. Excited blood which produced prompt inhibition lost that power on standing or on being agitated by bubbling oxygen. These conditions, together with the evidence that sympathetic impulses increase the secretion of the adrenal glands, and that during such emotional excitement as was here employed signs of sympathetic discharges were observable in the animal from the eye to the tip of the tail, prove that the epinephrin effect was due to epinephrin.

Injected epinephrin is capable of inducing an atheromatous condition of the arterial wall in rabbits, especially in elderly individuals, and is also capable of evoking hyperglycemia with glycosuria. As Ascher has shown, by prolonged stimulation of the splanchnic nerves, prolonged secretion of epinephrin with maintained high blood-pressure can be produced. In the light of the results here reported the temptation is strong to suggest that some phases of these pathologic states are associated with the strenuous and exciting character of modern life acting through the adrenal glands. This suggestion, however, must be put to experimental test.

* From the Laboratory of Physiology in the Harvard Medical School.

## REPORT OF A CASE OF PARALYSIS OF THE BLADDER

### ILLUSTRATING THE IMPORTANCE OF CATHETERIZATION BEFORE OPERATION

H. J. RELIHAN, M.D., AND J. SIMON, M.D.
SANBORN, IOWA

In this case of paralysis of the bladder the patient was operated on under the diagnosis of ovarian cyst with twisted pedicle complicated by pelvic infection. The condition followed normal labor and delivery, and shows the importance of catheterization before operation.

*Patient.*—Married woman, aged 30, mother of three normal children; previous history negative; in the second stage of labor when first seen. A normal living child was delivered without the use of forceps and without laceration of the mother's tissues. Delivery of the placenta was normal. For the first six days after delivery the patient's condition was normal. On the sixth day, the uterus was six finger's-breadths above the pubis. The urine was examined and found normal. The patient felt well. On the seventh day, the temperature was 102 F., and pulse was 120. The patient complained of great abdominal pain, more especially on the right side. The abdomen at this time began to distend rapidly and in size simulated a six-months' pregnancy. The bowels were regular and a normal amount of urine was being passed though there was some irritability of the bladder. On the eighth day, the temperature was 103 F. and the pulse 140 and poor in quality. All the symptoms pointed to puerperal sepsis except the distention of the abdomen, especially the lower part. Pain at this time was only controlled by administration of ¼ grain of morphin sulphate as necessary. By this time the size of the abdomen resembled a full term pregnancy.

*Examination.*—This showed great abdominal distention, especially in the lower portion. Percussion showed a cyst or watery tumor in the median line, especially in the pelvis. It seemed to be of great size and a diagnosis was made of ovarian cyst with twisted pedicle accompanied by pelvic infection, and immediate operation was advised.

Blood Examination: White cells, 18,000; red cells, 5,000,000; hemoglobin, 90 per cent. Differential count showed: small mononuclears, 18 per cent.; large mononuclears, 6 per cent.; eosinophils 2 per cent.; polymorphonuclears, 74 per cent.

Urine Examination: The urine was being passed every two to four hours in quantities of from 4 to 6 ounces. The reaction was alkaline. Otherwise it was normal.

*Operation.*—As the patient had been passing urine at regular intervals and had passed eight ounces just before the operation it was not thought necessary to catheterize her. An incision about 4 inches long was made in the median line. A large blue, thin-walled tumor presented which resembled in every way a cyst of ordinary character. A trocar was inserted and 3 gallons of urine were withdrawn. The fact that the tumor was not a cyst but the bladder was not recognized til lthe urine escaped through the trocar. The viscus was closed with No. 2 Chromic catgut, great care being exercised not to injure the mucosa. The abdominal incision was closed in the usual way and both wounds healed by primary union.

*Postoperative History.*—The ordinary treatment in any postoperative case was carried out, plus, of course, treatment of bladder symptoms. There was no complaint of pain. The patient was catheterized three hours after the operation and three times a day thereafter, the strictest antiseptic precautions being observed each time. After the fourth day, after the last catheterization of the day, a few drops of silver nitrate solution were left in the urethra. Hexamethylenamin (urotropin) was given regularly. On the fifth day as often happens after repeated catheterization, the bladder became infected. The patient had chills and the temperature rose from normal to 103 F.; the pulse was 138. The kidneys also became infected. Analysis of the urine showed: color, dark cloudy; specific gravity, 1026; sugar, negative; albumin, negative; indican, present; bile, negative. Microscopic examination showed many motile bacteria, numerous crystals (calcium oxalate), granular casts and blood-cells. There was also excess of mucous and triple phosphates. By the twelfth day the patient was in excellent condition and she was discharged well on the eighteenth day.

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## A CASE OF ENTERITIS FROM TRICHOCEPHALUS DISPAR

B. N. WADE, M.D.
CHICAGO

*Patient.*—An Austrian woman, aged 22, entered the Cook County hospital suffering from an intractable anemia and it was not until after her stools had been examined that the etiologic factor was discovered. She had lived in Boston until four months prior to admission. She had worked as a laundress; never used alcoholics; food was of poor quality; she ate in cheap restaurants. Fourteen months prior to admission the patient began to lose strength, and finally had to quit work; suffered with severe headaches, which were always in the occipital region. Her appetite was poor, and eating would nauseate her, and often caused vomiting, but she never vomited blood; had not vomited or even been nauseated for several months; the bowels had always been regular. The patient had had a slight bronchitis ever since the trouble began; had never been troubled with fainting spells or palpitation, although at times she became very weak and dizzy; on exertion, she would become short of breath. The patient had lost 50 pounds in weight. When the trouble first came on, the patient suffered a great deal from epistaxis, but had never lost any great amount of blood from this source; had complete amenorrhea since the beginning of the illness and during the time of the menstrual periods would often have nose-bleed. Previous to this the menstruation was normal. The patient stated that the muscles in her arms had pained ever since she took sick, and they were somewhat tender, and became stiff on exercising them. This myalgia was most severe at night. The patient also complained of a dull aching pain in the abdomen, especially in the splenic region, and said that it was always present; there was a drowsy feeling all the time. The patient had never felt this way until this trouble came on.

*Physical Examination.*—The patient appeared languid and apathetic; was pale and anemic; pulse and temperature were normal. The tongue was coated white, and the breath exceedingly foul. The chest and cardiovascular system were negative. There was some tenderness in the left epigastric region and over the descending colon; liver and spleen normal. On vaginal examination, there was extreme tenderness in the posterior fornix; rectum was somewhat tender. The stools were foul-smelling, greenish in color and watery in consistency. They contained many ova of the *Trichocephalus dispar*, which were of the characteristic brown oval forms with clear polar bodies. Each field contained four or five ova. After repeated examinations, the parasites themselves were found but once. There was no occult blood in the stools; small particles of undigested foods were present and mucus was also present to some extent.

*Blood Examination.*—Red cells, 3,100,000 per c.mm.; leukocytes, 8,300 per c.mm.; hemoglobin, 80 per cent. The differential count showed an eosinophilia of 10 per cent.; the other cells were present in about normal percentage.

The urine showed the presence of indican; otherwise it was normal. The stomach contents were also normal.

*Treatment.*—Two weeks after the patient was put on thymol, gr. 2, t. i. d., the ova completely disappeared from the stools. The bowels were kept open with calomel and Epsom salts, and an occasional colonic flushing was also given. The anemia was disappearing under the use of Fowler's solution and elixir, iron, quinin and strychnin.

My reasons for reporting this case are, first, to emphasize the importance of examination of the stools as a routine procedure, and especially in cases of anemia when no cause is evident; and second, because this is a disease which is either infrequent in this section, or one which is commonly overlooked.

# Therapeutics

## THE PROPHYLAXIS OF MEASLES

It is difficult to find either a physician or a layman to-day who has the temerity to expose a healthy child to contact with one who is suffering from scarlet fever, with the avowed object of infecting the healthy child. With measles it is different. Not a few non-professional people are inclined to advise, and even take pains to expose healthy children to infection from patients suffering from measles with the hope that the healthy children may contract the disease.

The circumstances connected with the two diseases are somewhat different. Scarlet fever, as has been pointed out in THE JOURNAL, is a disease to which not all persons are susceptible, a considerable number enjoying either an absolute immunity because they never contract the disease, or an immunity because they have already passed through the disease in so mild a form that it has not been recognized. Measles, on the other hand, is a disease to which practically every individual who has not already suffered an attack is susceptible. It is one of the most contagious of all diseases, ranking in this respect with small-pox and typhus (the genuine typhus, not typhoid) or ship fever.

It seems almost invariably true that one attack of the disease protects against subsequent attacks, though most writers teach that a second, third, and even fourth attack are not uncommon. It is probable that when these repeated attacks are alleged to have occurred, some of them at least were other cutaneous infectious diseases, especially so-called German measles, or some eruptive but non-contagious disease.

Many cases might be cited illustrative of these points, but only two or three will be mentioned here. The famous epidemic reported by Dr. Panum, the Danish physician, in the *Archives générales de médecine*, April, 1851, has been mentioned by numerous writers from Watson to Osler. This epidemic occurred in the Faröe Islands, in 1846. No measles had been known in this group of seventeen small islands since 1781 until on March 28, 1846, the disease was introduced by a man who had come from Copenhagen. In October of the same year the disease had entirely disappeared, and during the interval which had elapsed, of 7,782 inhabitants of the islands, 6,000 had had the disease; 1,500 persons who had established quarantine against the disease escaped.

In 1875, it is reported that measles was carried by a ship of the British navy from Sydney to the Fiji Islands, and in the succeeding epidemic 40,000 out of the 150,000 inhabitants died in four months. This shows the terrible severity of the disease in people who have no hereditary partial immunity.

In the Civil War, a large number of soldiers had measles, and many died from it. This disease occurred more frequently in the regiments which were recruited in the country towns than in those which were recruited in the large cities, this being explained by the fact that in country towns epidemics occur at longer intervals, so that a large number of boys reach manhood without having had the disease, while in the large cities epidemics are frequent and few boys grow to manhood without having experienced it.

These instances show that practically everyone is susceptible to measles until he has had it, and that an attack in adult life is generally more severe than in childhood.

Taking these facts into account one may well question first, whether it is possible entirely to prevent epidemics of measles; and second, whether, if it is possible to prevent them, it is desirable to do so?

On the other hand, it has been observed that children under six months of age are less likely to take this disease than older children, and that extremely old people are also less susceptible. Also, it seems to be a fact that the disease is most disastrous in its effects on infants, on children who have scrofulous glands, on persons who are tuberculous, or who have any tendency to tuberculosis, on individuals who are debilitated from any cause, and on women who are pregnant or who have recently been confined.

The above being true, it certainly can be reasonably asserted that the effort should be made to isolate children who are suffering from measles in order to prevent the spread of the disease, at least to people in whom an attack of the disease is likely to be followed by disastrous results. The details which should be carried out in order to accomplish this are not very different from those applicable to the prevention of scarlet fever, as given in THE JOURNAL, March 4, p. 667.

The contagious element of measles appears to have less vitality and to resist the ordinary measures of disinfection, including sunlight and fresh air, much less strongly than does the contagium of scarlet fever. The contagion of measles seems to exist very extensively in the secretions from the nose, throat and mouth, and the disease seems to be especially contagious during the period when the catarrhal symptoms are manifest, but before the cutaneous eruption appears. This increases the difficulty of enforcing efficient quarantine, for ordinarily, before the eruption appears, the child is believed to be suffering merely from a cold, and by the time the eruption appears and the quarantine is enforced many children have been exposed to the disease. When the disease is prevalent, children who show symptoms of a cold in the head should be suspected of perhaps having measles and should be promptly quarantined, but at the beginning of an epidemic it is rare that a child will be placed in quarantine before the eruption has appeared.

The general rule that well children should be kept apart from sick children is not usually followed with reference to children who are suffering from catarrhal affections of the nose and throat. When the rule is extended so as to apply to these patients, both whooping-cough and measles will be less rapidly passed around among the children.

The measures enumerated as applicable to scarlet fever and which are also applicable in cases of measles may be briefly summarized as follows:

The isolation of the patient in a remote room of the house.

The selection of a single immune person to care for the patient.

The wearing by the physician of a linen or rubber coat, when he visits the patient, which is removed outside of the patient's door.

The destruction of books and toys, which have been used by the patient, at the end of the period of quarantine.

The disinfection of dishes and clothing before they are removed from the sickroom.

At the end of the period of quarantine, which in the case of measles unattended by complications should be three weeks, the bathing and shampooing of the patient, and dressing him in fresh clothes.

The disinfection of the room, after it has been vacated, by the vapor of formaldehyd and by exposure of the room so far as possible to fresh air and sunshine.

The carrying out of these rules is a duty which every head of a family owes to the community, and especially to his neighbors who are at either extreme of life, or who are in delicate health. Such preventive measures should be enforced not only by the physician, but also by the sanitary authorities of the town.

As has just been said, sunshine and light are essential to the killing of the germs of all disease, and especially of measles; hence the room of a patient suffering from measles *should only rarely be kept dark during the day.* The patient's eyes may be efficiently protected from light by blue or smoked glasses.

The prolonged cough of measles after the period of quarantine is over should be treated as though the patient had incipient tuberculosis, and then the number of secondary deaths from measles will be cut in half.

### OXYURIS VERMICULARIS: PIN-WORMS

The pin-worm, thread-worm, or seat-worm, as it is commonly known, is the most frequent intestinal parasite of man. It occurs frequently in children, but is also found in adults, in whom it may continue to cause the most annoying symptoms for a prolonged period.

The most common symptom is itching about the anus, which is due to the presence of the worm in this locality. It may, however, migrate to adjacent parts, causing also pruritus vulvæ which in turn may lead to masturbation. This itching comes on in the evening or at night after the patient has retired. It frequently causes restlessness and disturbance of sleep. It may interfere with the appetite and nutrition of the patient, causing anemia and emaciation. Less often it produces more serious nervous disturbances, and rarely even convulsions.

The male worm is smaller in size than the female, the latter being about three-quarters of an inch in length, and the male about one-fifth of an inch.

The eggs are taken into the mouth with the food or from the fingers which may become infected during the scratching caused by the itching. Passing into the stomach, the eggs hatch out and the worms develop and pass into the small intestine, and from there into the large intestine and rectum, where the female deposits its eggs in immense numbers, frequently passing out from the rectum to the anus for this purpose.

The treatment should be internal, local, and general. The internal treatment should be directed toward removing the parasite from the intestinal canal as rapidly as possible. For this purpose magnesium sulphate is perhaps the simplest remedy, and it is usually efficient. Calomel is preferred by some, and should be given in a good sized dose, as, for instance, 5 grains for an adult. Santonin has been recommended, but on account of its toxic effects should not be employed, except in obstinate cases.

The local treatment consists of rectal injections of various sorts. Water is very destructive to both the worms and the eggs, and in many cases copious injections of water are all that is necessary to effect a cure. Commonly recommended are infusions or decoctions of quassia, made by steeping one ounce of quassia, powdered or in chips, in one pint of hot water. When this has become cooled to the temperature of the body, a portion of it may be injected into the rectum and retained, if possible, for from ten minutes to half an hour. In many cases injections of warm soapsuds have proved efficacious. In cases which resist these remedies, a solution of the corrosive chlorid of mercury of the strength of 1 to 10,000 may be used. In using these injections it is necessary to inject as large an amount as can be retained with comfort. Young children cannot usually be expected to retain more than from 2 to 4 ounces. Adults can frequently readily retain from half a pint to a pint, especially if the hips are raised; or the patient may be given a colon wash. The larger injections are desirable in order to distend the rectum thoroughly and to remove the mucus in which the worms find an agreeable habitat.

If the itching and scratching about the anus have resulted in congestion and thickening of the skin, the subsequent itching may be irrespective of the presence of the parasite. For this condition the official unguentum phenolis (a 3 per cent. ointment of phenol) may be employed with benefit.

As the persistence of the parasite in the intestine is favored by an unhealthy condition of the mucous membrane, general treatment should be directed toward restoring the intestinal canal to a healthy condition.

The prophylactic treatment, which is of considerable importance, embraces frequent bathing of the parts with soap and water, thorough washing of the hands after they have been used in scratching or other manipulations, and boiling of the clothing and bed-clothing to destroy any eggs which may be deposited on them. The treatment with enemata should be repeated daily until the trouble is thoroughly removed. This can be definitely determined by microscopic examination of the feces, which should show entire absence of the ova.

Before the treatment of the individual patient is complete, inquiry should be made in regard to the presence of the parasites in other members of the family, including not only the children and parents, but also nurses and other attendants.

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**Essentials of the Campaign Against Tuberculosis.**—Stating that tuberculosis is "a disgrace to our civilization," in a recent address Ex-Governor Charles E. Hughes of New York, now a justice of the Supreme Court of the United States, outlined the essentials of the work against tuberculosis. He said: "Here is a chance for the cooperation of all, no matter what their political views may be, no matter what their theories of government may be. I recognize the necessary limitations of governmental action. And here, not only must we have the action of government within its proper sphere, but this must be supplemented by the cooperation of those voluntary agencies which work outside the domain of government. Necessary information can be brought home to those who are in unfortunate circumstances which are remediable, so that they may know that the conditions may be a little less unfortunate by attention to a few simple rules with regard to hygiene and the proper ordering of life and its surroundings. Those who house other people and profess to have some patriotic pride in our institutions, can more clearly realize what they should do in the interest of the entire community in providing decent abodes for those from whom they take rent. Local authorities in our cities must appreciate the importance of securing prompt and full information in regard to cases and the faithful execution of our health laws so that this shall not be a paper program, but a realized advancement. In our counties the boards of supervisors are having opportunity, and should realize the necessity of improving conditions. This work must find its support in the sentiment of our communities. You cannot carry it by main strength against the will of the people. The people must be brought to realize what can be done, what is practicable, and support it because they understand it. Every man and every woman who knows the situation can be a conductor of electrical energy and give this movement its needed power."

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[*For other information see second page following reading matter*]

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## INFECTION AND ANAPHYLAXIS

As a result of work on anaphylaxis, the belief is gaining ground that many of the toxic processes of infections are to be explained on this basis. Rosenau and Anderson,[1] among others, have shown that true anaphylaxis can be produced to bacteria as well as to other proteid-containing substances, and von Pirquet and Schick[2] some time since went so far as to conclude that "the pathogenic substance has in itself no disease-producing effect; but rather, the symptoms of disease appear only when changes effected in the pathogenic substance, by the host, have attained a certain degree." Needless to say, such infections as produce true toxins, as diphtheria and tetanus, do not come under consideration, and the theory is particularly applicable to those diseases in which we were formerly accustomed to assume the existence of bacterial endotoxins as the cause of the process. The essential difference from this latter view is the belief that the bacteria in themselves have little or no toxic effect; that this results from an interaction of bacterial proteid (antigen), antibody and complement, the two latter being contained in the serum of the host. In this way the assumption of specific bacterial toxins with every infection becomes unnecessary; and the failure to obtain antitoxins with so many microorganisms is readily explicable.

It is evident that the phenomena of an acute anaphylactic reaction—convulsions associated with air hunger—are rarely, if ever, those of an infection. But the much more gradual addition of the foreign material in the latter case affords a satisfactory explanation for this difference. Indeed, Friedberger,[3] by injecting sensitized animals with repeated small doses of the foreign proteid, was able to produce continuous and remittent and intermittent fevers, and he concludes that "anaphylaxis is an extreme and acute form of infection, and infection a milder, more protracted form of anaphylaxis."

Neufeld and Dold[4] have taken up the problem of the possible identity of bacteriolytic antibodies with those associated with the process of bacterial hypersensitization. In the case of the cholera vibrio, anaphylaxis occurred only when lysis of the organism by the immune serum was prevented by keeping the mixture of organism and sensitized serum at freezing temperature. When lysis was allowed to take place, the resulting mixture produced no acute toxic effects. With the pneumococcus, on the other hand, there was no bacteriolysis to be guarded against, and the anaphylactic reaction was obtained regardless of the temperature at which the mixture was kept. Solution of this organism by autolysis, or by chemical means, gave inactive mixtures. Hence it would appear not only that the antibodies associated with bacteriolysis and with anaphylaxis are distinct from each other, but that the one process places itself in direct opposition to the other. So that bacteriolysis acts to some extent as a protective measure against anaphylaxis; and in the case of a disease like cholera, the clinical picture becomes the resultant of two opposing forces—the bacteriolysis in part preventing acute anaphylactic intoxication, but meanwhile liberating a noxious, but less acute endotoxin.

It is of course obvious that diverse bacteria can produce similar clinical conditions depending largely on the localization of the infection. And the present theory, departing largely from the assumption of specific toxins for the different organisms, gives this an adequate explanation. The theory also explains nicely the incubation period of disease, as being the interval elapsing between the actual invasion by microorganisms and the formation of a sufficient quantity of antibody to produce the toxic effects resulting from the combination of antigen plus antibody.

1. Hyg. Lab. Bull., 1907, 36.
2. Wiener klin. Wchnschr., 1903, xvi, 758.
3. Berl. klin. Wchnschr., 1910, xlvii, 1922.
4. Berl. klin. Wchnschr., 1911, xlviii, 55.

## SEX AND THE INSTRUCTION OF THE YOUNG

The attitude of the modern world toward the problem of sex, and especially of education in the hygiene and ethics of sex, seems an anomalous one. The subject has always been surrounded with mystery; but simpler and more primitive peoples find life full of mysteries, which they confront smiling and unabashed. We have few mysteries left to us; and the antiquated taboos which overshadow this one appear scarcely sufficient to account for the feeling, curiously compounded of dread, aversion and curiosity, which any discussion of the subject seems to arouse in most people to-day. The pagan world of antiquity frankly glorified sex, even in its sensual aspect; the asceticism of the middle ages rigorously condemned all aspects as sinful. The modern world professes to repudiate both doctrines; but the two seem to mingle in the ill-balanced and feverish sensitiveness on the subject often betrayed to-day, both in silence and in speech.

For a long time the outwardly predominating factor of asceticism has conspired with a host of shadowy, undefined motives to keep all enlightenment on the subject from the young with the same fearful zeal that

guards a powder-magazine from sparks. Experience and observation have taught, however, that the dreaded explosive force in humanity is not, like the powder, dead until awakened by a spark from outside; rather it is like live steam, dangerous only if not provided with the proper outlet. The ban of silence has, therefore, been lifted, and organized effort has set unflinchingly about the task of revealing the consequences, frightful or loathsome though they may be, of transgressions against the hygiene and ethics of sex.

Even yet, however, the ascetic view predominates; the destructive aspects of this ever-present natural force are the ones emphasized. That impulse which the Greek saw as a part of the vivifying forces of an august yet genial Nature, typified by the fertile earth and the quickening rain and sunshine—that impulse which has directly inspired much, if not most, of the greatest efforts in all forms of art, and which in subtler ways has entered into the greatest achievements of humanity—that impulse which, after all, not only perpetuates, but forever binds together the race with ties growing out of family, kinship and friendship—that impulse is presented to the impressionable mind of youth chiefly in its perverted aspects—aspects which shock and repel. Is there danger of permanently distorting the point of view—of infecting the susceptible youthful mind with suspicion and pessimism and, indeed, of actually degrading its ideals and possibilities?

This question has been stated clearly, forcibly and thoughtfully by W. D. Parkinson.[1] "The merit of truth," he says, "is not in its nakedness. To depict in startling colors the awful consequences of vice and to dwell on its equally appalling prevalence have never been found effective in advancing the standards of virtue. Indeed, these are the very measures oftenest employed by the two most active promoters of vice—the quack who deals in startling consequences and the evil companion who is always ready with the assurance, 'They all do it.' . . . Fear of consequences is not the ultimate appeal to a robust nature. No degree of danger will deter a youth from venturing into experiences which he believes he is to share with those who constitute the real world; and vice always claims to be the real side of human life. . . . Society is so permeated with this tone of patronage toward the poor fellow who has not sown and reaped wild oats that no threatened consequences can avail much with a youth who would rather be penalized than patronized. The half-contemptuous attitude toward innocence, maintained so conspicuously by the more outspoken portion of the public, is more impressive to the average youth than all the scareheads that benevolence may display in his path. For every man desires to be a sharer with other men. Unless he can be assured that reality reaches as far upward as it does downward, that the upper world is as rich to the explorer as the nether and affords at least equal manly companionship, he will cast in his lot with the underworld and take his chances with his fellows in spite of all warnings."

This touches the root of the matter. The negative sanctity of the ascetic—the insulated safety of the anchorite—make no appeal to most young people, and especially to boys, who look forward to living in a "man's world." Warning alone is not likely to save any but the weaklings, if indeed it saves them. The salvation of more robust natures must be positive. There is much wisdom, therefore, in Mr. Parkinson's assertion that the sex relationship should not be presented either as a menace in itself or as a mere matter of personal or social hygiene, but as "one of the fundamental—perhaps the most fundamental—of all the factors of social and spiritual progress." His article is worth reading, and his conclusions are worth pondering over.

1. Parkinson, William D.: Sex and Education, Educational Rev., January, 1911, p. 42.

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## THE LENTICULAR ZONE AND ANARTHRIA

The aphasia storm which had its origin in the "Revision" paper of Marie in 1906, and which broke with such violence in the discussion before the French neurologic society in 1908, has now almost passed, leaving the situation somewhat clearer, but still possessing most of its ancient landmarks.

It will be recalled that Marie maintains that Broca's convolution plays no rôle whatever in the zone of language; that aphasia is always due to a lesion of Wernicke's zone, and is always the "sensory aphasia" of the classical adherents; and that a lesion of the lenticular zone, of which he makes a tentative description, produces an anarthria—which anarthria plus the sensory aphasia equals the classical Broca's aphasia.

Thus: An isolated lesion of the zone of Wernicke= aphasia of Wernicke; an isolated lesion of the lenticular zone=anarthria; a lesion of the two zones=aphasia of Broca.

Dejerine stood by the classical conceptions, as did also Liepmann, Ziehen, Bianchi, Grasset and a host of others; v. Monakow took a median position, while Marie, Souques, Moutier and others defended the new theses in whole or in part.

It soon became evident that Marie's first contention was false. It has been proved without doubt that Broca's convolutions do play an important rôle in the function of language. The second contention never contained anything particularly new, save the added claim made by Marie that there was always an intelligence defect involved in Wernicke's aphasia; this has been effectually disproved by a number of recent studies. Now Mahaim[1] and Van Gehuchten[2] enter the lists and show that lesions of the left lenticular zone in right-

1. Mahaim: Un cas d'aphasie motrice et sensorielle sans hémiplégie, avec intégrité de l'opercule, de l'insula, et du noyau lenticulaire, Bull. de l'Acad. roy. de méd. de Belgique, December, 1909, and Feb. 27, 1910.
2. Van Gehuchten: Lésion de la zone lenticulaire gauche sans troubles de la parole, Le Névraxe, Dec. 20, 1910.

handed individuals may occur without anarthria—in fact, without any trouble with speech whatever.

Both Mahaim and Van Gehuchten have studied cases by means of serial microscopic sections in which the "lenticular zone," as described by Marie, has suffered almost total destruction, and yet there have been no speech disturbances of any kind. Furthermore, Van Gehuchten analyzes in detail the proofs advanced by Moutier in his thesis on which Marie bases his contentions, reproducing all his pictures, and shows that Marie's anarthria is really an anarthria of projection.

Thus, while aphasias still need more extended study by serial microscopic sections in order to clear up many vexed points regarding the rôle played by a number of projection and association paths in the function of language, it would appear that the final *coup de grâce* has been given to the last of Marie's primary contentions in his initial famous "Revision."

## THE CIRCULAR AROUND THE BOTTLE

The Council on Pharmacy and Chemistry has certain rules governing the admission of proprietary and other medicinal products to New and Nonofficial Remedies (N. N. R.). A large number of preparations are ineligible to N. N. R. because they are exploited in nonconformity with Rule 4, which reads:

> "*Indirect Advertising.*—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is said to be indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to circulars, etc., when distributed solely to physicians, to advertising in medical journals, or to vaccines and antitoxins.)"

In other words it is held that circulars describing the diseases in which the remedy is useful are distinctly detrimental to public health; the tendency always is to exaggeration, not only as to their value, but also as to the variety of diseases in which the remedy is indicated.

A considerable proportion of the medical profession may still be charged with heedlessly playing into the hands of the "patent-medicine" man. The "circular around the bottle" is a striking instance of this. The patient has placed in his hands a preparation in the "original bottle" wrapped around which is a circular containing a comprehensive list of all the ills and pains and various derangements for which that product is supposed to be valuable. He is also given with the same package a supplementary list of a dozen or so of other prescriptions, and what diseases they will cure. He is at once advised how he may at all times and of his own initiative obtain these wonderful remedies. And all this with the (presumed) full endorsement of the family physician! Could anyone devise or imagine a more effective way of starting a patient on the road to self-drugging? And is not this the nature and purpose of the fanciful "circular around the bottle?" There are dozens, probably scores, of preparations which have never been advertised directly to the public and yet which are bought by that public, over the drug store counter, like the rankest of "patent medicines." These self-druggers have been made such by the carelessness of physicians who have prescribed "original packages" of such proprietaries as those under discussion. It is necessary only to call to mind such preparations as Antikamnia, Micajah's Wafers and Glycothymoline as some of the most flagrant examples, to realize the evil of prescribing a product having a "circular around the bottle."

Nevertheless, the Council has been assured by several manufacturers that their preparations would be unsalable if they omitted this circular; that physicians would not use or prescribe these preparations without the circular, and—the saddest part of it all—these manufacturers appear to be serious and honest in their contention. What is the meaning? Do physicians really need the circular around the package or bottle to tell them why they are using this or that drug? Or does the circular confer some peculiar potency on the drug which would be lost if the circular were omitted? Or is the circular one of those bad but seductive habits which we would rather suffer than do without? Or, finally, are these manufacturers mistaken in their estimate of what physicians really want?

## THE SECRET COMMISSION EVIL

The giving and receiving of secret commissions has been discussed with increasing frequency for several years. Although the existence of this practice has long been recognized, we have always believed that it has been confined to a comparatively small number of physicians. Condemnation of this evil by the Association, by THE JOURNAL and by various medical societies, as well as occasional local investigations and exposures, have apparently failed to abolish it. Recent discussion shows that the better men in the profession appreciate the importance of the problem and the need of its solution by physicians. In this issue appear two articles on the subject, one the president's address before the Western Surgical Association,[1] and the other an editorial from *Colorado Medicine*.[2] Both of these articles are severe and carry the impression that the practice is widespread. We are loath to believe that conditions are as bad as represented. Yet this evil, if existent to any extent, should be freely discussed and unsparingly condemned. Its correction is of vital importance to the public as well as to physicians. While it has long been recognized as existent by the profession, the rapidly growing interest of the public in professional matters and the increasing disposition of physicians to take the people into their confidence, have apprised the public, apparently for the first time, of the existence of this condition. Now that the people are informed, the evil must be

1. THE JOURNAL A. M. A., this issue, page 725.
2. Colorado Medicine, February, 1911; see THE JOURNAL, this issue, page 770

speedily corrected by the profession, for if it is not, the people themselves will demand the right to suppress it.

It is significant that, in spite of the specious arguments brought forward in defense of this practice in professional circles, no one has attempted to defend it before the public. The misleading excuses of "paying the attending physician for his time," "recognizing the diagnosis as of equal value with the operation," and other fallacious arguments which have been advanced in extenuation of this practice, will count for nothing with the public. Logically, they belong in the same category as the "poor boy" excuse for cheap medical colleges and night schools. Popularly, they will have much less weight, since the layman does not recognize, as yet, the importance of medical education to him and to his family, but does see, in the secret payment of commissions, that the patient, instead of being a sacred trust, is made an article of merchandise, whose money is divided without his knowledge.

The issue is so plain that it needs only to be stated to carry conviction to the unprofessional mind. It has been condemned and denounced repeatedly by medical organs and organizations and by high-minded medical men everywhere. Yet, we are told, the evil exists and is becoming more prevalent. If this be true, there is but one remedy, the remedy which in recent years has corrected many other pernicious and secret practices: Graft in the medical profession must receive the same treatment as graft in politics or in business—publicity. If the people and the profession are given the names of surgeons and specialists who offer secret commissions and of physicians who accept them, this wretched business will soon come to an end.

Apparently there is one community in which this remedy is to be applied. The Denver *Times*, an evening paper, which has for a long time excluded all objectionable medical advertisements, says editorially in a recent issue:

> . . . It is disquieting to learn from the organ of the Medical Society of Colorado that many physicians and surgeons are commercializing their practice through that system of secret rebates known as "fee-splitting." The method is about as follows: A patient consults a physician. The physician discovers that the case calls for the knowledge of a specialist or operation by a surgeon. Ethically it is the duty of the physician to seek the services of the most highly qualified man. But the sight of some possible dollars blinds the vision to ethical considerations and the patient is sent to the specialist or surgeon who agrees to pay to the physician the largest percentage of his fee. It is a debasing custom of course; it admits of neither extenuation nor excuse; but it seems to be a custom to which numerous physicians and surgeons of repute are addicted, and we believe that it can only be abolished by the publication of the names of the men practicing it. Some of those names we have obtained and authenticated already; we are investigating others now; and when the list is tolerably complete we will print it and gladly face the libel suits that such publication may involve. The men who do this kind of thing are well known already to the men who do not; in professional circles their names are a matter of common gossip; but they should be known equally well by the lay public, and we hope, shortly, to be able to give them the kind of advertising they merit.

And yet in this question, as in other complicated social problems, the public itself is to a certain extent to blame for existing conditions. In the majority of communities, the family physician is to-day receiving the same compensation which was paid his professional forefathers two or three generations ago; and this in spite of the enormous increase of the cost of professional education and of the standard of living, as well as of the quality of medical services. Whether wisely or not, the physician fears in many cases to raise the price of his services or to charge on any other basis than the time-honored, but economically absurd, basis of the number of calls made on the patient. The result is that in many cases the patient pays willingly and promptly the large fee demanded by the surgeon, but settles his bill with his family physician grudgingly and after long delay. The family physician often gives far more in time and services to the patient than he can expect to receive compensation for; and he has consequently turned to the surgeon to receive as a gift what he should have received from the patient as a right. If the public will compensate the family physician fairly and promptly for his services and will insist that all transactions between the physician and the consultant be carried on with the full knowledge of the patient, the cause and the possibility of this evil will speedily disappear. Physicians and surgeons must recognize the existence of this evil, must admit the rights of the public in the matter and must lead the way in abolishing it, but the public, on its part, must recognize the conditions which have given rise to this problem, must do its share to help the profession to solve it; and must support the family physician, both financially and morally, so that he may be able to deal honestly and fairly with his patients.

## *Current Comment*

### THE COST OF CLEAN MILK

On the principle that one cannot get something for nothing, it must be conceded that one result of the requirements for a cleaner, purer milk-supply will be an increase in its cost to the consumer. Official recognition of this fact is found in the report of the Philadelphia Milk Commission which recently investigated the matter of the milk-supply of that city. This report seems to cover fully the production and distribution of milk in all their phases, as relates to Philadelphia. The commission believes that milk can be produced and distributed under proper regulations with fair profit to all concerned at an advance of one cent a quart over present prices, making the price nine cents. They say that "the public is fully awakened to the danger of milk as received to-day, and will accept a proper increase in price to secure the protection that proper regulations will give them." They believe that though this might seem to be hard on the poorer consumers, really they will be most benefited, as at present they receive much milk that is unfit for consumption, and the amount

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which they will save by decreased illness on account of having a healthful milk-supply will more than compensate for the increased cost. They recommend that this increase should go to the farmers, who should receive not less than five cents a quart for milk produced under proper conditions. To this allotment, of course, the milk distributors demur. It is probable that the objection of the consumer to an increase in the price of milk has hitherto been because it benefited only the distributor, who already received the larger share of the selling price, for the smaller share of the labor and expense. The findings of the Philadelphia commission will no doubt apply, with modifications, to the milk question elsewhere, and their conclusions that the farmer should get more, and that the consumer will be willing to pay more, for clean, safe milk, will be generally accepted.

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### PLAGUE IN CHINA

Dr. Mullowney's account in this issue of the plague in North China illustrates one disadvantage of western civilization superimposed on a somewhat unprepared eastern population. The spread of plague would probably have been much less rapid in that section, as has been the case in the Hunan province in the south, had it not been for the existence of railroad communication. This, together with the insanitary conditions existing in the Chinese cities, and the unreadiness of the government to cope with the epidemic, make the condition there a very serious one. An infection like plague may readily spread along the main arteries of communication that have been opened up in such a country as China. The disease has continued to spread in many provinces, according to reports later than that of Dr. Mullowney, and probably will die out only after it has exhausted the susceptible material. Famine and rioting are adding to the horror of the situation and the extent of the devastation cannot be predicted. The "yellow peril" with this complication is a very real one and may be a matter of international concern at any time.

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### EASY WRITING VERSUS EASY READING: A HINT TO AUTHORS

The considerable amount of work required of the editor in preparing manuscripts for publication has led the editor of the *Journal of the Indiana State Medical Association* to voice a protest against the carelessness of authors in sending in their papers. The indictment is a true one. Writers could relieve the editor of much unnecessary work by a little care; and since, after all, no one should be so competent to set forth a man's own ideas and experiences as himself, such care would result in a better presentation of the subject than can be given by the most careful reviser. We refer particularly to case-reports, which are often presented in varying degrees of unprintable condition, sometimes being sprinkled with abbreviations devised by and intelligible only to the author, and sometimes merely defiant of grammar and syntax, but frequently requiring what amounts practically to rewriting. It would seem that the reports usually consist of disjointed, fragmentary notes jotted down at the time of examination, without revision, with verbs omitted from sentences, words, clauses and phrases separated by periods, the whole sounding like a telegram, with every rule of construction and punctuation violated. It would be no more difficult to make a case-report a plain, consecutive narrative, conforming to the rules of good style, than to write the remaining text of the article in the same manner. The little time required would be well spent, for the "easy writing" which, as Byron said, "makes d—d hard reading," might almost as well not be done at all. We endorse the sentiments of the editor from Indiana.

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## *Medical News*

### ALABAMA

**Tuberculosis Ward Equipped.**—W. E. Colwell, Birmingham, has donated equipment for a ward in the new sanatorium established at Red Mountain by the Birmingham Antituberculosis Society. Ten of the twelve rooms have already been furnished and the patients were removed to the institution last week.

**Society Elections.**—Dale County Medical Society held its annual meeting in Ozark, January 11, and elected the following officers: president, Dr. Robert D. Reynolds, Jr., Ozark; vice-president and censor, Dr. Andrew J. Morris, Newton; secretary-treasurer, Dr. M. O. Grace, Ozark; censors, Drs. Erastus B. Ard, Ozark; Samuel M. C. Howell, Midland City; William D. Mixson, Ozark, and Henderson L. Holman, Ozark; county health officer for four years, Dr. Erastus B. Ard, Ozark; health officer for Ozark, Dr. M. O. Grace; for Midland City, Dr. Samuel M. C. Howell; for Pinckard, Dr. R. G. Cary; for Newton, Dr. James E. Stokes, and for Ariton, Dr. C. R. Athey. ——At the annual meeting of the Barbour County Medical Society held in Eufaula, the following officers were elected: president, Dr. John S. Tillman, Clio; vice-president, Dr. Benjamin F. Jackson, Clayton; secretary-treasurer, Dr. William P. McDowell, Eufaula; county health officer, Dr. Clarence Long, Comer; county physician, Dr. James J. Winn, Clayton, and councilor, Dr. Benjamin F. Bennett, Louisville.——Coosa County Medical Society has elected the following officers: president, Dr. Julius Jones, Rockford; vice-president, Dr. S. F. Jones, Rockford; health officer for five years, Dr. William H. Moon, Goodwater, and censor, Dr. Eugene Argo, Goodwater.

### CALIFORNIA

**Additional Gift to Hospital.**—Mrs. Whitelaw Reid has given an additional $60,000 to the Red Cross Guild Hospital, San Mateo, which was erected as a memorial to her parents, Mr. and Mrs. D. O. Mills.

**Election.**—At the annual meeting of the Humboldt County Medical Society, held at Sequoia, the following officers were elected: president, Dr. John N. Chain, Eureka; secretary, Dr. John M. Mill, Arcata; and treasurer, Dr. Francis R. Horel, Arcata.

**Dr. Royer is Not Dead.**—In the *Southern California Practitioner*, December, 1910, appeared the death notice of Dr. Daniel Franklin Royer of Orange, and on this authority his name was included among the dead in this journal. Dr. Ida B. Parker of Orange informs us that the notice was incorrect, and that Dr. Royer is alive.

### COLORADO

**Commissioners Approve Dr. Cassidy's Plan.**—The board of commissioners of Denver County, on February 9, placed itself on record as favoring Dr. Elizabeth Cassidy's move for more careful selection of the medical staff of the city and county hospital, by adopting resolutions endorsing the provisions of the bill now in the hands of committees in the house and senate, which place the appointive power in the faculty of the state university, medical department.

**Personal.**—Dr. Leonard Freeman, Denver, who was recently operated on for appendicitis at St. Joseph's Hospital, is reported to be convalescent.——Drs. Henry W. Hoagland, P. Oliver Hanford and Gerald B. Webb, Colorado Springs, have

been appointed to the medical staff of Sunny Rest Sanatorium.——Dr. James C. Todd, Denver, has been appointed professor of pathology and secretary of the first and second year divisions of the University of Colorado Medical School, Boulder.

## GEORGIA

**New Officers for Medical Board.**—At the February meeting of the medical board of Grady Hospital, Atlanta, the following officers were elected: president, Dr. John C. Olmstead; vice-president, Dr. F. Phinizy Calhoun; and treasurer, Dr. L. Benjamin Clarke.

**Long Memorial Infirmary.**—Crawford W. Long Infirmary banks were opened at various places in Athens, March 2. These take the place of a personal canvass for the establishment and endowment of a Memorial Infirmary for the University of Georgia in honor of the late Dr. Crawford W. Long.

**District Society Election.**—At the fourth annual meeting of the Tenth District Medical Society, held in Augusta, February 14, the following officers were elected: president, Dr. Joshua R. Beall, Blythe; vice-president, Dr. William W. Beattey, Jr., Augusta; and secretary-treasurer, Dr. George A. Taylor, Augusta (reelected). The society was entertained at a banquet by the Richmond County Medical Society in the evening, when addresses were made by Dr. Joseph N. McCormack, Bowling Green, Ky.; Dr. Albert Vanderveer, Albany N. Y., and others. The society adopted a resolution highly commending the faculty of the medical college for its efforts in behalf and in connection with the college-hospital movement.——The annual meeting of the Fourth District Medical Society was held in Carrollton, February 21. Addresses were made by Dr. Joseph N. McCormack, Bowling Green, Ky., and Dr. Eduard C. Davis, Atlanta, president of the Medical Association of Georgia. The following officers were elected: president, Dr. Charles A. Dexter, Columbus; vice-president, Dr H. J Goodwyn, Roopville; and secretary-treasurer, Dr. Homer Boatright, Carrollton. The next meeting of the society will be held in Greenville, September 19.

## ILLINOIS

**Maternity Hospital for Aurora.**—The Sisters of Mercy announce that they have purchased the Ryburn Flats, with the surrounding property, for $18,000, and will establish a maternity hospital to be known as St. Joseph's Infirmary.

**Hospital Staff Resigns.**—Fifteen of the eighteen members of the medical staff of Oak Park Hospital resigned March 3, the cause assigned being the interference with the duties of the staff, by the Sisters of Misericordia, who are in charge of the hospital.

**Personal.**—Dr. Jesse M. Threadgill, New Douglas, was recently operated on in Rebecca Hospital, St. Louis, for a ununited fracture of the arm, due to a runaway accident, January 30.——Dr. Paschall N. Bowman, Springfield, charged with manslaughter, is said to have been freed from that charge, February 27, and committed to the Jacksonville State Hospital.——Dr. Lucinda H. Corr, Carlinville, was awarded $1,000 in her suit for damages against the Chicago and Alton Railway, for injuries received in a wreck.

**Commend Association for Education Work.**—The Williamson County Medical Society, at a special meeting held for the purpose, February 28, passed resolutions commending the American Medical Association for its services in elevating American medical standards and urging further effort until standards of preliminary education and of medical practice in the United States shall be fully equal to those of Europe. The preambles recite that there are many unnecessary medical colleges which are run for commercial purposes, and that, because of competition between these colleges, many incompetent and even illiterate physicians are graduated; and that these factors together with commercialism in professorships and lack of stringency in examinations are causing harm to the general practitioner, without any benefit to the public.

### Chicago

**Money for Sanatorium.**—In the state tax levy for 1911 is included an item of $442,184.64 for the Municipal Tuberculosis Sanatorium.

**Many Appointments to Medical Reserve Corps.**—The President has sent to the Senate the nominations of sixty-seven more physicians of Chicago as first lieutenants of the Medical Reserve Corps.

**Site for Tuberculosis Sanatorium.**—The city of Chicago has taken title to the remaining 60 acres of the 160-acre tract purchased for the Municipal Tuberculosis Sanatorium at North Fortieth and Bryn Mawr avenues.

**Trouble at Hospital.**—As a result, it is said, of disloyalty and insubordination on the part of members of the staff of Mary Thompson Hospital, seven members have been dismissed. The physicians in question claim that the trouble lies in the appointment of a lay superintendent, and in the overbearing treatment of the physicians by the superintendent.

**Personal.**—Dr. David J. Davis of the Memorial Institute for Infectious Diseases has been appointed pathologist to St. Luke's Hospital.——Dr. Katherine B. Rich has been appointed assistant city physician, and began her duties February 24.——Dr. B. Brindley Eads, who was operated on at the Presbyterian Hospital, March 6, is making satisfactory progress toward recovery.

**Society to Support State Institution.**—The council of the Chicago Medical Society, at a meeting February 14, unanimously adopted resolutions endorsing the request of the trustees of the University of Illinois for an annual appropriation of $100,000 for the equipment, maintenance and extension of the medical school, and appointed a committee to assist in presenting the matter to the legislature and the governor.

**Contagious Disease Hospital.**—The common council has decided to add the fund of $75,000 bequeathed to the city by the late Mrs. Annie C. Durand for the establishment of a public bathhouse, to another fund, the combined fund amounting to about $200,000, to be used for the construction of a hospital for the treatment of contagious diseases, and an arrangement has been made with the trustees of the McCormick Memorial Institute for Infectious Diseases, whereby that institution will meet any expense of maintenance not covered by the Durand endowment fund.

**To Avoid Undesirable Newspaper Publicity.**—At its last meeting, the Council of the Chicago Medical Society adopted certain preambles and resolutions relative to newspaper publicity. The Council expressed the opinion that reporters should be excluded from all meetings of medical societies during the consideration of all strictly scientific matters, except those bearing on sanitation, public policy, hygiene or sociology; also that abstracts of such papers that come within the range of subjects considered as proper for publication in the public press be handed to the secretary, before or at the meeting, to be given by him to the press.

## INDIANA

**Contract for Hospital Let.**—The contract for the erection of the new St. Vincent's Hospital, Indianapolis, was let March 2. The main building will be five stories in height and of steel, fire-proof construction. There will be two diet kitchens on each floor, and there will be fourteen operating rooms in the building, the entire top floor being given up to surgical purposes.

**Leaves Estate to Hospital.**—Hon. David Darwin Dykeman has left the bulk of his estate for the establishment of a city hospital in Logansport, to be known as the Mary Dykeman Memorial Hospital, to be in charge of a hospital commission to be composed of three members, one to be elected by the city council, one by the commissioners of Cass County, and one by the circuit court judge.

**Twin City Physicians Meet.**—A meeting was called in Indiana Harbor, February 21, which was attended by most of the physicians of that place and East Chicago. The object of the organization, which is to meet semi-monthly, is to establish a schedule of fees and to promote a more friendly feeling among physicians of the twin cities. Dr. George Orf, Indiana Harbor, was elected president of the new organization.

**Personal.**—Dr. Edward J. McOscar, Fort Wayne, has returned from a trip to Panama and Central America.——Dr. Matthias Muhlhausen, Evansville, is reported to be critically ill.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia due to an operation wound, is convalescent.——Dr. William H. Williams, Dale, has retired from the practice of medicine.——Dr. Walter M. McGaughey, Greencastle, sustained a fracture of the arm, February 16, by back-fire of his automobile.——Dr. Charles W. Corey, Hartford City, dislocated his left arm in an automobile accident, February 14.——Dr. Alfred Henry has been appointed chief of the Free Tuberculosis Clinic, Indianapolis, vice Dr. William T. S. Dodds.——Dr. Walter H. Peters, Lafayette, who was operated on recently in Rochester, Minn., is reported to be convalescent.——Dr. Abraham G. Shortle, formerly of Indianapolis, has been appointed medical director of the Albuquerque (N. Mex.) Sanatorium.——Dr. William H. McClurg, Kokomo, while crossing a railroad track recently, was struck by a passing train but was not seriously injured.

XUM

## KENTUCKY

**Sanitary School Incorporated.**—The Louisville School of Sanitary Instruction has been incorporated by Drs. W. E. Grant, Ezra O. Witherspoon and William E. Gary.

**Gift to Hospital.**—The Jewish Hospital Association, Louisville, has received as a gift from Mr. Bernard Bernheim 70 feet of ground on Kentucky Street, adjacent to the hospital, which is valued at more than $10,000. The property includes a new two-story brick residence. The house is to be used as a nurses' home, and is to be called the Bernard Bernheim Annex.

**Want Public Abattoir.**—Dr. W. Ed Grant, city health officer of Louisville, has called a conference of all the butchers in the city to discuss the establishment of a public abattoir to cost in the neighborhood of $150,000. A joint investigation by the City Health Office and the State Pure Food Department has shown the slaughterhouses in the city of Louisville to be in a very insanitary condition.

**Care of the Insane.**—At the recent meeting of the State Board of Control of Charitable Institutions, a special committee of the State Federation of Women's Clubs advocated training school for nurses and attendants in state asylums for the insane, shorter hours of work and living rooms apart from those of the patients. At this meeting it was pointed out that there is no great need for an increased per capita allowance for the care of the insane, and it was also suggested that the names of the state asylums be changed to "state hospitals."

## MAINE

**Appeal for Bowdoin.**—The president of Bowdoin College has issued an appeal to the alumni association for $140,000 for the use of the medical department. The most pressing needs of the institution are new laboratories and improvements and hospital facilities for the establishment of a dispensary in Portland.

**Society Meetings.**—York County Medical Society, at its annual meeting, held in Biddeford, elected Dr. Fritz E. Small, Biddeford, president; Dr. Eduard C. Cook, York Village, vice-president; Dr. David E. Dolloff, Biddeford, secretary; Dr. Lawrence E. Willard, Saco, treasurer; Dr. Frank H. Hobbs, Waterboro, censor.——Kennebec County Medical Association, at its annual meeting in Bangor elected Dr. Richard H. Stubbs, Augusta, president; Dr. Donald B. Cragin, Waterville, vice-president; and Dr. Wellington Johnson, Augusta, secretary-treasurer.——At the annual meeting of Androscoggin County Medical Association, held in Lewiston, the following officers were elected: president, Dr. Alonzo M. Gracelon, Lewiston; vice-president, Dr. Louis C. Baribault, Lewiston; secretary-treasurer, Dr. Joseph W. Scannell, Lewiston; and censors, Drs. Laureat P. Ducharme, Ernest V. Call, and Harold E. E. Stevens, all of Lewiston.——Portland Medical Club, at its annual meeting, elected the following officers: president, Dr. Ambrose H. Weeks; vice-presidents, Drs. Daniel Driscoll and Harold A. Pingree; secretary-treasurer Dr. Harold J. Everett; and censors, Drs. Bertrand F. Dunn, and Thomas J. Burrage.

## MARYLAND

**State Society Meeting.**—The annual meeting of the Medical and Chirurgical Faculty of Maryland will be held in Baltimore, April 26-28, inclusive.

**Personal.**—Dr. Henry P. Fahrney has been appointed physician of Montevue Hospital, Frederick.——Dr. Daniel S. Jenifer, formerly of Atlantic City, N. J., has begun practice in Towson.

**Increase Capacity of Sanatorium.**—A new administration building and two additional hospital wings will be erected at the Maryland Tuberculosis Sanatorium, Sabillasville, this spring, increasing the accommodation for patients from 200 to 400. The new building will be about 500 feet in length and two stories in height.

### Baltimore

**Enlarge Dispensary.**—The directors of the Baltimore General Dispensary have purchased a site 25 by 61 feet and will erect on it a two-story and basement building.

**Personal.**—Dr. Arthur Marriott was seriously injured by the bite of a baboon which escaped from its cage at the Custom House, February 28.——Dr. Covington has resigned as a member of the staff of the Presbyterian Eye, Ear, Nose and Throat Hospital.

**Gift to Children's Hospital.**—Dr. James Lawrence Kernan has given to the Kernan Hospital and Industrial School for Children a further gift of $10,000, which will be applied to the building fund. The previous gift included a large colonial house and 60 acres of land.

**Fined Under Drug Law.**—Dr. John F. Lang, is reported to have pleaded guilty in the criminal court, March 2, to four indictments, charging him with unlawfully issuing prescriptions for morphin and cocain to habitual users of these drugs, and to have been fined $50 and costs in each case, making a total of more than $300.

**The Diphtheria Situation.**—As the result of the conference between the health department and medical staff of Johns Hopkins Hospital, a canvas of boarding houses in which students of the medical school live, was begun February 26, to determine the presence or absence of diphtheria. The city was divided into four groups and eight employees of the health department and four members of the hospital staff were detailed on this work. About 175 homes were visited and 1,700 cultures made. The total number of cases of diphtheria in the hospital up to March 4, was fifty-nine, including three physicians. There are also five cases of diphtheria at the Church Home. The dispensary has been closed to all cases except those of throat trouble. The office of the medical school and postoffice have been moved to the house adjoining the hospital. The Hebrew Hospital and Dispensary nearly opposite Johns Hopkins Hospital was closed to visitors and new patients, February 28, on account of the prevalance of the disease in that section. For the same reason all visitors have been forbidden entrance to St. Joseph's Home for Incurables, the Maryland Home and Hospital, and St. Agnes' Hospital. Visitors are also prohibited at Mercy Hospital, Maryland General and University Hospital. Dr. J. Whitridge Williams, dean of Johns Hopkins Medical School, has announced the resumption of first and second year work, March 8, but throat cultures are made before admission of students.

## MASSACHUSETTS

**Illegal Practitioner Fined.**—Edward E. Hosmer, Lynn, who burned several children with a powerful acid in an effort to cure infantile paralysis, is said to have been found guilty of practicing medicine without a license, and to have been fined $250, February 25.

**Society Meeting.**—The Eastern Hampden Medical Society, at its thirty-first annual meeting, February 9, in Springfield, elected Dr. Albert M. Belden, Northampton, president; Dr. Arthur L. Damon, North Wilbraham, vice-president, and Dr. Raymond A. Kinloch, Springfield, secretary-treasurer.

**Money for Hospitals.**—By the will of the late Mrs. Rosa Cobb Cole, Plymouth, $100,000 is devised to the Jordan Hospital in that city.——By the will of ex-mayor George W. Fifield, Lowell, $20,000 is devised to St. John's Hospital, Lowell, and a similar amount to the Lowell General Hospital.

## NEBRASKA

**Personal.**—Dr. Adolph Sachs, Omaha, has returned from Europe.——Dr. Frank M. Barnes, Omaha, was struck by an automobile, February 21, spraining his ankle.

**Change of Staff of State Hospital.**—On February 2, Dr. William B. Kern succeeded Dr. Mark W. Baxter as superintendent of Ingleside Asylum, Hastings. The new superintendent announces the following appointments: first assistant, Dr. F. H. Juegle; second assistant, Dr. C. A. Oaks; third assistant, Dr. M. J. Gilfillan, and fourth assistant, Dr. Mercer B. Croll.

**Annual Meeting of Casualty Company.**—At the annual meeting of the Physicians' Casualty Association of America, the proposal to remove the home office from Omaha to Chicago is said not to have been favorably received. Dr. DeWitt C. Bryant was reelected president; Dr. Dellizon A. Foote, vice-president, and Drs. LeRoy Crummer, Robert A. Gilmore and Charles C. Allison were reelected directors, all of Omaha.

**County Medical Society Meetings.**—At the annual meeting of Boyd County Medical Society, held in Lynch, February 10, Dr. George W. Ira, Lynch, was elected president; Dr. George E. Darrow, Butte, secretary-treasurer; and Dr. John R. Beatty, Butte, delegate to the state society.——Nuckolls County Medical Association, at its recent meeting in Nelson elected Dr. John W. Mitchell, Superior, president; Dr. Edwin M. McGee, Nelson, vice-president; Dr. Frank Mitchell, secretary.——York County Medical Society has elected the following officers: president, Dr. Orville M. Moore; vice-president, Dr. Frank G. Snyder; secretary-treasurer, Dr. James N. Plumb; delegate to the state society, Dr. Walter F. Reynolds, all of York; and alternate, Dr. George A. Morrison, Bradshaw.——Physicians of Stanton County met January 31,

and organized a county medical society and elected Dr. William R. Peters, president; Dr. Emil C. Underberg, secretary, and Dr. William H. Person, treasurer, all of Stanton.

## NEW HAMPSHIRE

**Bequest.**—By the will of the late Dr. George F. Wilbur, Nashua, about $60,000 is devised to the Nashua Emergency Hospital.

**Personal.**—After a continuous service of twenty-one years, as executive officer of the Dover Board of Health, Mr. Charles M. Jones has retired.——At the annual banquet of the Manchester Medical Association, held February 14, and at which Dr. Wellington A. Thompson presided, the addresses of the evening were given by Dr. Edward W. Taylor, Boston, on "Infantile Paralysis," and by Dr. Harvey P. Towle, Boston.

## NEW JERSEY

**Wall Paper Regulation.**—The Bayonne Board of Health has added to the sanitary code of the city rules prohibiting the placing of new wall paper on the walls of any dwelling until the old paper has been removed and the wall thoroughly cleansed.

**Personal.**—Dr. Ervin C. Towne, resident physician at Cooper Hospital, Canton, is reported to be seriously ill with septicemia.——Dr. Wells P. Eagleton has succeeded Dr. Charles J. Kipp as medical director of the Newark Charitable Eye and Ear Hospital.——Dr. Edward S. Sharpe, Salem, is reported to be ill at his home.

**Societies May Unite.**—At a meeting of the Passaic Medical Society, February 9, a motion to unite with the Passaic County Medical Society, was adopted, contingent to the granting of certain conditions, and Drs. George T. Welch, William H. Carroll and Gilbert Van Vranken were appointed a committee to treat with the county society.

**Academy of Medicine Organized.**—Formal organization of the Academy of Medicine of Northern New Jersey was effected at a meeting held in Newark, February 25. A constitution and by-laws were adopted and the following officers were elected: president, Dr. Edward J. Ill, Newark; vice-presidents, Drs. Thomas N. Gray, East Orange; Wells P. Eagleton, Newark, and secretary, Dr. Julius Levy, Newark. One of the provisions of the constitution is that dentists may become associate fellows of the organization and have a separate section where they can pursue their own branch of study.

**Health Lectures.**—A series of free public lectures on health is being given at Newark under the auspices of the Public Education Committee of the Essex County Medical Society, the Public Health Committee of the State Federation of Women's Clubs, and the College Women's Club. Lectures have already been given on "Food Fads" by Dr. Richard C. Newton, Montclair; on "The Eye in Health and Disease" by Dr. Linn Emerson, Orange; and on "Clean Streets for Health" by Dr. William Buermann, Newark. On March 22, W. F. Barry, Orange, will speak on "The Care of the Teeth in Relation to Health;" on April 10, Dr. Christopher C. Beling, Newark, will take up "The Cause and Prevention of Nervous and Mental Diseases;" and on May 1, Dr. Thomas N. Gray, East Orange, will discuss "The Social Evil and Its Effects on Public Health."

## NEW YORK

**Bequest for Nassau Hospital.**—The will of Mrs. Alice Hicks of Westbury, L. I., gives $100,000 to the Nassau Hospital, Mineola, L. I.

**Hospital Closed.**—The New Amsterdam Eye and Ear Hospital in West Thirty-Eighth Street has received permission from the courts to sell its property for $60,000. The reason given for this action is that the institution is not paying.

**Wood Alcohol Kills Three.**—Three out of five persons who drank wood alcohol believing it to be grain alcohol at a wedding anniversary celebration near Middleton, N. Y., died from the effects of the beverage. The man who sold the stuff has fled and the authorities are searching for him.

**Bill to Protect Marriage.**—A bill has been brought before the legislature providing that no marriage license shall be issued until each party has presented a doctor's certificate of freedom from any contagious, infectious or transmissible disease, and making it a misdemeanor to procure such a certificate by fraud.

**For Better Milk.**—The committee of the New York Milk Committee, known as the Committee for the Reduction of Infant Mortality, in its endeavor to raise the sum of $300,000 has sent appeals to a large number of women who were thought able to contribute, and women will follow up this appeal by a street canvass for contributions to this fund.

**Harvey Society Lectures.**—The seventh of this course of lectures will be delivered on March 25 by Prof. H. Gideon Wells, of the University of Chicago, on Calcification and Ossification. The eighth and last lecture of the course will be delivered on April 1 by Dr. S. Weir Mitchell of Philadelphia, the subject being "William Harvey, the Discoverer of the Circulation of the Blood."

**Bellevue Alumni Dine.**—After participating in the twenty-fifth annual meeting of the organization 250 Bellevue alumni dined at Delmonico's and listened to addresses by Dr. Charles F. Stokes, Surgeon-General of the Navy; Drs. William K. Polk, Joseph D. Bryant, John W. Brannan and Floyd M. Crandall. Dr. Starling Loving of Columbus, O., who was one of the first paid interns and served in 1849 and 1850 at the time of the cholera epidemic, was present.

### New York City

**Bronx Hospital for Bronx Physicians.**—Declaring that Bronx physicians exclusively are entitled to attend Bronx patients, a number of medical men of the borough protested to the State Board of Charities, February 27, against the opening of a new hospital in that borough by Dr. Abraham Jacobi and seventeen physicians and surgeons, fifteen of whom are said to be residents of Manhattan.

**Personal.**—Dr. Theodore C. Janeway has been appointed senior attending physician of the Presbyterian Hospital as the result of a recent tentative agreement between the hospital and Columbia University. Dr. William G. MacCallum has been appointed pathologist to the hospital.——Dr. Williams McKim Marriott, assistant to the chair of physiologic chemistry in Cornell Medical School, has been appointed instructor in biologic chemistry in Washington University, St. Louis.

**Gifts to Hospitals.**—The late Melville W. DeWolf left a bequest of $5,000 to the Presbyterian Hospital to establish the Emma DeWolf bed for children, and $5,000 to Roosevelt Hospital to establish the Carlton DeWolf free bed.——The Society of the Lutheran Hospital of the City of New York, formed for the purpose of building a Lutheran Hospital in this city, has received a donation of eight lots near Central Islip, L. I., on which to erect a home for convalescents. The name of the donor is withheld. The society has been pledged about $250,000 toward the erection of a city hospital, of which $100,000 was given by John Riehle.

## OKLAHOMA

**County Medical Society Election.**—At the recent meeting of the Tillman County Medical Association, held in Frederick, the following officers were elected: president, Dr. Adam B. Fair, Frederick; vice-president, Dr. Francis E. Rosenberger, Grandfield; secretary-treasurer, Dr. John P. VanAllen, Frederick; alternate delegate to the state association, Dr. James D. Osborn, Frederick; censor, Dr. John H. Hanson, Grandfield.

**Personal.**—Dr. William N. McGee, local surgeon of the Rock Island System at Shawnee, has resigned and has been succeeded by Dr. Charles H. Blickensderfer, Tecumseh.——Dr. W. H. Slaughter, a colored physician of Oklahoma City, was seriously injured recently in a collision between his buggy and a heavy wagon.——Dr. Walter Hardy, Ardmore, has approved plans for a sanitarium to be built by September 1.——Dr. C. A. Steward, Allen, is reported to have been convicted of manslaughter in the second degree, and to have been sentenced to imprisonment for three years in the pentitentiary. The charge was that he shot and instantly killed a formerly intimate friend, during a quarrel, on Christmas eve, 1909.

## PENNSYLVANIA

**Hospital Opened.**—After unexpected delays the Meyer Emergency Hospital, Erie, was opened for patients, February 19.

**New Bulletins for Health Department.**—Bulletins 16 and 17, issued by the State Department of Health are on "The Conservation of Infant Life in Pennsylvania," and on "Pennsylvania's Standing Army of Health."

**Personal.**—Dr. Charles P. Woodring has been appointed a member of the board of health of Meadville.——Dr. Leroy W. Braden had a narrow escape from drowning while attempting to ford a flooded creek near his home at Ten Mile.

**Gifts to Hospitals.**—Mrs. Minnie Bachman, Sharon, has given $10,000 to Lancaster General Hospital, to provide a free room in memory of the donor's husband, Morris Bachman.——By the will of the late Abraham Weitzenkorn, $500 is bequeathed to Pottstown Hospital.

### Philadelphia

**Hospital Addition Dedicated.**—Bradley Hall, the new addition to the Methodist Episcopal Hospital, was formally dedicated on February 25. Bishop C. W. Smith made the principal address at the exercises. Mr. Thomas Bradley, president of the board of trustees, is the donor of the building, which cost $40,000, and will be used for kitchens, store-rooms, dining rooms and dormitories.

**Personal.**—Drs. Charles K. Mills and William G. Spiller have been elected foreign corresponding members of the Société de Neurologie, Paris.——As Dr. John H. Musser has refused to allow his name to be considered for the professorship of practice of medicine in the University of Pennsylvania, Dr. Alfred Stengel, professor of clinical medicine, has succeeded to the chair.——Dr. S. Weir Mitchell celebrated his eighty-first birthday, February 15.

**New Officers.**—The president of the Philadelphia County Medical Society, Dr. Christian B. Longenecker, has made the following appointments for the year 1911: Committee on Public Policy and Legislation, Drs. Hobart A. Hare, George A. Knowles, Wilmer Krusen, John D. McLean and L. Webster Fox, chairman; committee on membership, Drs. Mary Buchanan, M. Howard Fussell, George C. Yeager, Milton F. Percival and Samuel Wolfe, chairman; committee on library, Drs. Edward E. Montgomery, Elizabeth L. Peck, Albert M. Eaton, Herman B. Allyn and James M. Anders, chairman; and reporter, Dr. Howard C. Carpenter.——At the meeting of Philadelphia Medical Club, January 20, the following officers were elected: president, Dr. William L. Rodman; vice-presidents, Drs. S. Lewis Ziegler and Gwilym G. Davis; secretary, Dr. J. Gurney Taylor, and treasurer, Dr. Lewis H. Adler, Jr.; governor (for 5 years) Dr. Edward L. Duer.——The new officers chosen by the Kensington Branch of the County Medical Society include: chairman, Dr. George H. Nofer, and clerk, Dr. Valentine R. Manning.——The Northern Medical Association has elected the following officers: president, Dr. O. Luther Latchford; vice-president, Dr. Paul F. Bremer; secretary, Dr. Lee Boyce; corresponding secretary, Dr. Thomas Shriner, and treasurer, Dr. John W. Millick.——The following officers were elected by the North Branch of the County Medical Society for the year 1911: Dr. Wilmer Krusen, chairman; Dr. John Leedon, clerk; Dr. Samuel P. Gerhart was elected associate vice-president of the county society to represent this branch.

### VIRGINIA

**Sanatorium Opened.**—The Birdville Sanatorium for Consumptives, Petersburg, was formally opened, February 14.

**Election.**—At the quarterly meeting of the Alexandria Medical Society, the following officers were elected: president, Dr. William M. Smith, Alexandria; vice-presidents, Drs. Samuel B. Moore, Alexandria; and T. F. Dodd, Fairfax County; secretary, Dr. Llewellyn Powell, Alexandria, and treasurer Dr. R. J. Yates, Alexandria County.

**Undergraduates' Association.**—Students of the third and fourth year classes of the University College of Medicine, Richmond, have organized an undergraduate surgical association according to the plan adopted a few years ago by the University of Pennsylvania. The association meets every Thursday evening and discusses surgical questions. The officers of the association are: president, W. M. Burnett; vice-president, O. L. Hamilton, and secretary-treasurer, C. J Allen.

**Personal.**—Dr. Alexander G. Brown, Richmond, has been commissioned captain, Medical Corps, Virginia Volunteers.——Dr. Frank H. Hancock, Norfolk, has been appointed quarantine officer of the Elizabeth River District, vice Dr. Powhatan S. Schenk.——Dr. William E. Jennings, Bedford, has been appointed resident physician at the Catawba Sanatorium, vice Dr. William D. Tewksbury, resigned to accept the position of superintendent of the District of Columbia Tuberculosis Hospital.

### GENERAL NEWS

**New Member of Referee Board.**—Secretary Wilson has appointed Dr. Theobald Smith, Harvard Medical School, to fill the vacancy in the Referee Board of Consulting Scientific Experts caused by the death of Dr. Christian A. Herter, New York City.

**Report on Cholera in Honolulu.**—Up to March 5, nineteen cases of cholera have developed in Honolulu, with fifteen deaths, all the deaths being of native Hawaiians. As a precautionary measure the schools in one district of the city have been closed.

**Orriss Under Arrest.**—A. W. Orriss, concerning whom a warning was published in THE JOURNAL, February 11, page 432, has been arrested on complaint of Dr. J. C. Atwell, Butler, Pa., and is in jail at that place, charged with obtaining money on false pretenses.

**New Officers of Sanitary Association.**—At the meeting of the Lake Michigan Sanitary Association, noted in the issue of March 4, page 679, Dr. William D. Weis, health commissioner of Hammond, Ind., was elected president; Dr. Henry B. Favill, Chicago, first vice-president; and Dr. Aaron J. Lauer, Whiting, Ind., member of the executive committee.

**Tri-State Medical Society Meeting.**—The annual meeting of the Tri-State Medical Society of Virginia and the Carolinas was held in Raleigh, N. C., February 22 and 23, under the presidency of Dr. Joseph A. White, Richmond, Va. The following officers were elected: president, Dr. J. Howell Way, Waynesboro, N. C.; vice-presidents, Drs. Thomas E. Anderson, Statesville, N. C.; William E. Anderson, Farmville, Va.; and Frank H. McLeod, Florence, S. C., and councilors, Drs. Edward C. Register, Charlotte, N. C.; William W. Fennell, Rock Hill, S. C., and Samuel Lile, Lynchburg, Va. The next meeting will be held in Columbia, S. C., Feb. 21 and 22, 1912.

**Sanitation of the Canal Zone.**—The annual report of the Department of Sanitation of the Isthmian Canal Commission for 1910 shows a slight increase in the death rate over the previous year due to external violence, but a decrease as compared with the death rate of previous years. During the year 558 deaths occurred among the 50,802 employees, equivalent to an annual mortality of 10.98 per 1,000. The death rate among white employees from disease was 2.63 per 1,000. Typhoid fever caused 13 deaths during the year; dysentery, 21; pneumonia, 73; and malaria, 50. One death from yellow fever occurred January 24. This case was imported from Carthagena, and with this exception no yellow fever, plague or smallpox has occurred during the year.

**Life Insurance Directors Meet.**—The Medical Section of the American Life Convention held its semi-annual meeting in New Orleans, February 23-25. Among the important papers presented were those by Dr. H. A. Baker of the Pittsburg Life and Trust Company on "Substandard Risks," in which he stated that the officers of sailing and steam vessels are undoubtedly the greatest risks to insurance companies and next to these come actors, glass workers, naval officers, railway trainmen, seamen and fishermen, overweight and underweight risks. In overweights there is likely to be degenerative change, and underweights a great risk of tuberculosis. Dr. Frank L. B. Jenney, medical director of the Federal Life Insurance Company, Chicago, read an interesting paper on "Office Methods and Reporting of Impairments"; and Dr. Amand N. Ravold, St. Louis, discussed "Uranalysis and Preservation of Urine." The reasons for a national board of health were considered by Dr. Albert Anderson, medical director of the Jefferson Standard Life Insurance Company. The association endorsed the Owens bill, and appointed a committee, consisting of Drs. Albert Anderson, F. M. Cross, and Victor C. Vaughan, Jr., Detroit, to represent the association in the advocacy of this measure.

**Discovery of Poliomyelitis Organism.**—The Department of Health of Pennsylvania announces that in examining blood in acute cases of poliomyelitis in human beings and monkeys, in which the disease was produced experimentally, an organism has been found different in morphologic characteristics from any hitherto described, which may or may not prove the etiologic factor in the causation of the disease. Blood smears being fixed in methyl alcohol and stained with carbol-thionin, the organism appears as a faintly-stained blue rod with regular cell wall about 10 microns long and .8 microns in width curved at an angle of 60 to 75 degrees at one end, and occasionally at both ends. At times the curved end is bulbous. Some of the organisms appear to have a very finely granular protoplasm, and they are found free in the serum as well as in the body of the red blood cell. The organisms do not retain the violet color when stained by the Gram method but assume the color of the counter stain which is a very dilute solution of carbol fuchsin. The specimens of blood examined were from ten children who had anterior poliomyelitis during the epidemic of last summer and autumn, and from thirteen cases of the disease in its acute stage, which had been produced experimentally in monkeys. Blood smears examined from three normal human beings and thirteen normal monkeys were carefully examined with negative results. After inoculation with the virus, these monkeys gave positive results. Blood smears were stained with iodin and sulphuric acid in order to test the organisms for cellulose. Smears from the cords and brain-

of paralyzed monkeys, and from one human being were examined, but none of the new organisms was found. Filtered virus stained with carbol-thionin by Gram's method showed none of these organisms. Defibrinated blood, from three weeks to two months old, from two paralyzed monkeys showed the forms in increased numbers. Cultures made from blood of a paralyzed monkey in blood bouillon, plain bouillon, and blood-agar, examined after an inoculation of three weeks, showed the presence of the organism in increased numbers. Dorsett's egg medium was inoculated with the same blood at the same time, but the organism was not found in smears from surface of the medium or from the water of condensation. Search was made without success for moving organisms in fresh blood, in old tubes of defibrinated blood from paralyzed monkeys, blood bouillon, plain bouillon, serum bouillon cultures three weeks old, and in the condensation water of three-weeks-old cultures on Dorsett's egg medium, under decalcified illumination. Success in isolating the organisms has not yet been reached.

## FOREIGN NEWS

**Deaths in the Profession Abroad.**—Christian Böhr, the leading physiologist of Denmark, professor of the University of Copenhagen, died February 3, aged 56. He was a pioneer in work on the gases in the blood and the gaseous interchanges in the lungs and had recently worked out an ingenious method for determination of the output of blood for the heart beat. He would soon have completed his twenty-fifth year as teacher at the university, and a *Festschrift* is in press intended for that occasion, but which now will serve as a memorial.——G. Mya, an eminent pediatrist of Italy, professor of medical pathology and later of pediatrics at the University of Florence for thirty years, died February 6, aged 63.——James Edward Pollock, F.R.C.P.; one of the oldest fellows of the Royal College of Physicians, London; a pioneer specialist in and writer on tuberculosis; died at his home in London, December 18, aged 92.

**Pellagra in Italy.**—An official commission has recently been appointed in Italy to study the application of the newer views of the etiology of pellagra. At the first meeting the fine results accomplished to date by the regulations adopted in the last few years were emphasized. In 1888 Italy had 117 pellagrins for each 1,000,000 inhabitants and 80 in 1903. The antipellagra law was then passed and the number was reduced to 39 per 1,000,000 in 1908. The pellagrins formed 7.9 per cent. of the inmates of the insane asylums in 1903, while in 1908 they were only 3.5 per cent. Alessandrini ascribes the disease to a parasite in drinking water and Tizzoni to a special streptobacillus, and both these men are in the commission, so the matter will be thoroughly studied. If either of them is right, then the benefit realized to date by the measures based on the assumption that spoiled corn is responsible for pellagra, is due merely to the improved hygiene. Antonini stated that research in the United States is confirming the corn theory.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, Feb. 17, 1911.

### The Refilling of Medical Prescriptions

The Société de thérapeutique, some time ago, appointed a commission to investigate and report on the regrettable practice of refilling prescriptions (previously mentioned in THE JOURNAL, Feb. 4, 1911, p. 360). The commission found nothing in existing laws which applied to the subject. It offered to the society the following resolutions, which were adopted: 1. When a physician writes a prescription calling for a poisonous drug, the prescription should name, in accordance with the law, the prescribed quantity of the toxic substance, the mode of administration of the medicine, and when necessary, the maximum number of times the prescription may be filled without fresh authorization. 2. Whenever a pharmacist fills a prescription calling for a poisonous substance, he should place his stamp and a new number on it, even if this prescription is already on his register. 3. Prescriptions for solutions for hypodermic use should never be refilled without special authorization of the physician who has prescribed them.

### Measures Against the Plague

It is reported from Russia that Professor Zabolotny, who has returned from a tour of investigation in the far East, states emphatically that at present neither Siberia nor European Russia is threatened with the plague. This optimistic assurance, however, fails to quiet public alarm in view of the frightful rapidity with which the plague has spread southward among the people of the yellow races. In spite of the activity of the Russian and the Japanese governments, which are aided by a knowledge of the customs and the language and therefore find the population with which they have to deal more tractable, the situation is a grave one, all the more that the portion of the Manchurian region under Japanese control is only a small part of the immense Chinese empire, and that the Chinese administration has shown itself so unequal to the situation that Chinese physicians themselves have refused their assistance so long as the sanitary administration is not organized along European lines.

In France, the parliamentary commission of hygiene has just decided to ask the minister of the interior to hasten the meeting of an international conference to study the means of checking the epidemics of plague and cholera. Moreover, Dr. Broquet, of the Institut Pasteur, has just left for Manchuria, taking with him a large number of chests containing ampullas of Haffkine's serum, which are intended for our soldiers and countrymen sojourning in the threatened localities of the far East. It is felt that the time has come to organize in defense of the civilized world a new scientific expedition to China for the study of this scourge, like that which studied the bubonic plague in Bombay in 1897.

### The Name of Malta Fever

The governor of the Island of Malta recently complained that the name of "Malta fever" was not suitable for a disease which is found all along the Mediterranean coast as well as in other countries not bordering on the Mediterranean. The question was laid before the Académie de médecine, which appointed a commission to study the subject. Professor Widal, who presented the report of the commission, proposed to replace the name of "Malta fever" by that of "Mediterranean fever." Professor Blanchard objected that this term seemed scarcely better justified than Malta fever, since the disease is found in other regions. Geographical names, moreover, have the disadvantage of being restricted and incomplete. Blanchard, therefore, proposed to call the disease "undulating fever" (*fièvre ondulante*). Professor Chauffard preferred the name "melitosis," which has the advantage of recalling the cause of the disease, the *Micrococcus melitensis*. Drs. Landouzy and Vaillard supported Chauffard's proposition, on the ground that, in man, the undulating character of the fever may not be evident in the abortive forms and that, moreover, though the *Micrococcus melitensis* produces an undulating fever in man, its manifestations in animals are quite different.

### Agitation Among Students in Dental Surgery

A delegation of students in dental surgery has laid before the Chamber of Deputies a petition protesting against the reservation of certain posts, such as that of surgeon-dentist of the hospitals, for doctors in medicine alone. The students believe that, since five years of study, attested by a series of difficult examinations, are demanded of surgeon-dentists, the latter should have the right to compete for the post of surgeon-dentist on the same terms as doctors in medicine.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, Feb. 16, 1911.

### Pay Wards in Municipal Hospitals

The question of the establishment of wards for pay patients in the municipal hospitals, of which I have written several times, has lately made some progress. The administration has agreed to the suggestions of the commission which has been considering this matter. All that is needed now is the consent of the city council. According to the resolution, a special building with fifty to sixty beds is to be erected in connection with the surgical clinic at the Moabit Hospital as an experiment, the beds to be available for paying patients of the so-called middle class. These patients, as a rule, are to be placed in small wards of from three to five beds. A number of single rooms is to be provided for patients who need temporary isolation. This section of the hospital is for the benefit of those members of the middle class who are not in position to pay higher fees without too much of a drain on their means. The daily fee for care including the physicians' services amounts to $1.60 (6.50 marks). For the more important operations a special fee as high as $25 (100 marks) may be charged. Also other special services are to be compensated

at moderate fees. If patients are received whose circumstances warrant it, higher fees may be charged and in such cases the physician may make special charges. The decision as to whether the circumstances warrant higher or lower charges is reserved to the city authorities.

### Regulation of Automobile Traffic

At the request of the Royal Automobile Club of Bavaria the Munich Ophthalmologic Society has made the following report in regard to the requirements for the visual capacity of automobile drivers: 1. The lowest capacity of the eye with the better vision must be 2/3, and of the eye with the poorer vision 1/3 of the normal. The highest permissible correction is + 8.0 diopters. Spectacles and reserve spectacles with an arrangement to protect the glasses from rain and snow must be provided. 2. A retraction of the field of vision which is distinctly demonstrable with the perimeter even in one eye, is a disqualification. 3. A reduction of the sensitiveness to light also disqualifies. 4. Congenital color blindness is not to be considered. 5. Ptosis, paralysis of the eye muscle, considerable disturbance of the mobility of the pupil, aphakia and especially external inflammations, which are accompanied by photophobia, for instance, render the applicant unfit. 6. Goggles are recommended. 7. There should be reexamination every two years.

### Statistics of Curative Treatment of Tuberculosis

From the latest statistics of the Imperial Insurance Office on the curative treatment of tuberculosis in the institutions for invalid insurance, a number of important results can be deduced especially because they extend over the period from 1897-1909. During this time, 275,000 patients with pulmonary tuberculosis have received prolonged expert treatment, costing in all over $25,000,000 (100,000,000 marks). Since 1897, the number of men treated for tuberculosis of the lungs has increased more than eleven times and that of women nearly eighteen times. The cost of treatment has continually increased in correspondence with the increased cost of living. The average expense for a tuberculosis patient in 1897 was $76 (307 marks), in 1909, $96 (386 marks) The expense for a day's treatment has risen from $1 (4.05 marks) in 1897 to $1.35 (5.41 marks) in 1909. The treatment of patients with pulmonary tuberculosis was carried out in the so-called people's sanatoria. There are thirty-seven establishments for treatment of diseases of the lungs and thirty-four sanatoria, convalescent homes and hospitals, which are essentially sustained by the invalid insurance societies. On account of the well-known difficulty of keeping a patient who has a family to support in the sanatorium for a sufficient length of time, the law provides for aid to those dependent on the patient, allowing half of the amount paid for sickness by the Krankenkassen or one-fourth of the day's wages; in some cases this is doubled or even tripled. Unmarried insured patients in many cases are assured especial allowance for illness according to the rates of the Krankenkassen, up to one-fourth of the day's wages. In this way, between 1897 and 1909 the sum of $4,250,000 (17,000,000 marks) was paid to relatives and for the special sick benefit; in 1909, $37,000 (148,000 marks) was paid. The results obtained each year at the close of the treatment have been followed for five years so that the latest statistics give the conclusions for nine such periods of five years. In the last eight control periods the initial successes compared with the first period have risen in tuberculous men from 4 to 13 per cent. and in tuberculous women from 5 to 15 per cent. The end-results, on the other hand, have risen from 3 to 19 per cent. in tuberculous men and from 3 to 20 per cent. in tuberculous women. The women treated in all the control periods show a markedly greater permanence of the cure than the men, a result which must be referred to the more marked vitality of women. While at the end of 1901 of 100 men treated for tuberculosis in 1897 only twenty-five had preserved the favorable initial result, the number of those treated in 1905 who showed a continuance of the cure in 1909 was forty-four. On the other hand, for every 100 tuberculous women treated in 1897 at the end of 1901 there were thirty-two able to work and of those treated in 1905 at the end of the year 1909 fifty-two were still able to work. These numbers show also that from year to year better results have been achieved in the treatment of tuberculosis. Of the patients treated in 1909, 1,215 men and 5,826 women were found at the beginning of the curative treatment in the first stage according to the Turban-Gerhardt classification: 9,161 men and 3,399 women in the second stage; 3,550 men and 1,154 women in the third stage. Of all three stages there were at the close of the treatment 535 men and 358 women in stage O. The first stage showed in comparison with the beginning an increase of 1,489 men and 521 women, while the second stage showed a decrease of 1,475 men and 757 women; the third stage a decrease of 553 men and 122 women. In order to reach as completely as possible those persons whose health is endangered the military examinations have been put at the service of the campaign against tuberculosis. It has been arranged that the data regarding the health of those examined for military service by the military surgeons should be communicated to the tuberculosis authorities. In 1909 the organization learned of 575 tuberculous patients in this way.

### Improvement of Instruction in Pediatrics

The pediatric society has called attention in memorials addressed to the governments of the various federal states to the insufficient opportunities for instruction in diseases of children in most of the German universities and has made the following demand: It is imperatively necessary that every university possess a children's clinic with a modern infant ward (of at least sixteen beds and some nurses), and a policlinic for children, separate from that for adults. These institutions should be under the direction of a special professor who is to have a voice in the faculty in matters pertaining to the pediatric department. Two hours a week for only one semester are not considered sufficient for attendance on these pediatric clinics. The importance of diseases of children in practice makes an examination in this department necessary for the state license, and this examination should be held by a special professor and rank in importance with the examination in internal medicine. How far these demands will be accepted by the government remains to be seen. Many university professors and many physicians take the position that pediatrics should not be regarded as a specialty, but that it falls properly in the field of instruction in internal medicine and in practice belongs to the sphere of the family physician. This conception is justly opposed. The field of investigation in pediatrics has widened so much in late years that its facts cannot be sufficiently considered in the instruction in internal medicine, and the difficulties in diagnosis and therapeutics in the practice of diseases of children require occasionally the counsel of a specially educated pediatrician, although it must be admitted that every practitioner should understand so much of pediatrics that he will have a sufficient experience for ordinary cases.

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, Feb. 23, 1911.

### Sudden Death of Professor Escherich

The news of the death of Professor Escherich, the well-known professor of pediatrics, will without doubt be received with great regret by the numerous American doctors who have been working under him in this city. His clinic was a Mecca for all these men, for it hardly had its like in Europe as regards the advantages for study. Besides, Escherich himself was a very good teacher, who understood how to captivate the thoughts of his students and to direct them to certain roads of reasoning. Out of the great number of his pupils von Pirquet's name is familiar to all practitioners. Escherich's efforts were directed to the prevention of infantile mortality by recommending breast-feeding in all cases, and by the institution of milk distribution for those who were unable to obtain it in a sufficiently pure state. His school is famous for the chemical and biologic researches undertaken under his supervision; the discovery of the *Bacillus coli* is due to one of his earliest undertakings in this line, and has made his name a household word in scientific medicine. He was the representative pediatrist invited to present this specialty at the Congress of Arts and Sciences at the St. Louis Exposition in 1904. He was only 54 years of age when his brilliant career was closed by an attack of apoplexy, brought on by an early arteriosclerosis.

### Celebration of Washington's Birthday

This national festival was celebrated in Vienna by a reception in the halls of the embassy of the United States, where Mr. Richard C. Kerens, the ambassador to the Austrian court, gave a formal evening to the members of the American colony at present living in our city. A large number of those present were doctors, members of the American Medical Association of Vienna, which at present is flourishing as never before. The ambassador is a frequent guest in the headquarters of the Association, and thus excellent relations are kept between the two "powers."

## BUDAPEST LETTER

*(From Our Occasional Correspondent.)*

BUDAPEST, Feb. 7, 1911.

### State Protection of Children in Hungary

Hungary is justly proud of her system of caring for dependent children, of whom there are now 50,000 in the special institutions provided for them by the Hungarian government. In addition to this large number at present under its protection, the state has previously had 50,000 other wards who either have since been given back to their parents, or, having reached their fifteenth year, have been dismissed from the charge of the state. The system in vogue is generally regarded as one of the foremost humanitarian institutions of the civilized world, and has been lauded as such at recent international congresses of hygiene and child welfare, while experts come to Hungary from all parts of the civilized world to study the details of the methods.

#### DETAILS OF THE SYSTEM

The homes for children consist of seventeen large buildings in different parts of the country. Every child who has no supporter, or whose maintenance and education are not sufficiently ensured, either on account of poverty or bad hygienic conditions or other adverse circumstances, has a legal right to be cared for by the state. He is not obliged to sue for admission, but he can present himself and claim admission on the ground of legal right. Nowhere else in the world does a child possess such a privilege. In Germany, for instance, the child has no such right, as regards the state, and deserted children are referred to the village charity. In France such cases have to be brought to the notice of the county council.

#### ABSENCE OF RED TAPE

Another prominent feature of the Hungarian system is that no documents are necessary for proving the fact of a child's abandonment. The Hungarian homes, therefore, take in any child who appears not to be under proper guardianship, and only after the state has received him into its care will inquiries be made through the Society for Protection of Orphans as to whether he is really dependent on the state's care or not. Illness among the children in these homes is treated by medical experts, who have at their command a large number of wet-nurses, assistants, incubators and all necessary surgical appliances, constituting a well-equipped modern hospital.

#### HEALTHY CHILDREN BOARDED OUT

Healthy children are not brought up in the institutions as "hot-house specimens of humanity," not knowing the trials and troubles of life. Such children are placed by the state in suitable households of the artisan or agricultural class, where they grow up as members of the family and ultimately become useful Hungarian citizens, irrespective of their former nationality. Even though such families are carefully chosen, the state still reserves the right of control. For this purpose, the services of the county physician are requisitioned, extra payment being made for this work. He is required to assure himself as regards the health of the children, their bodily and mental development, and their condition with respect to cleanliness and clothing. In the case of infants, he must supervise the feeding of the child and take its weight from time to time. The state will shortly appoint a lady supervisor, in addition to the already existing district medical officers. Her duties will be the carrying out of the details prescribed by the medical officer and repeated visits to the foster-families, wherein she will take the part, not so much of a government official, as of an aunt to the adopted child and a relative of the family. In the event of the foster-parents proving unsuitable, she will have the child removed to more appropriate surroundings.

#### TIES OF RELATIONSHIP FOSTERED

The intercourse between the child and its blood relations does not cease when it becomes the ward of the state. This is not the case in other countries; in Paris, for instance, as soon as a child is taken into a foundling asylum the mother is not allowed to apply for information respecting it more than four times a year. In the Hungarian institutions a very different system prevails. It often happens that, in the case of infants, the mother and child are not only separated, but, if the mother requires it, suitable accommodation is provided for her by the state. In the case of children the mother is requested to visit the child, and, as far as possible, to help in its up-bringing. Should she in any case be of the opinion that her child's surroundings are unsuitable to its proper physical or mental development, she can, by reporting this to the state authorities, have the child removed elsewhere, even though her complaints should be due merely to a mother's natural anxiety. Should the mother's or the relations' or even the child's circumstances change, so that the child could be brought up at home, the mother may at once reclaim the child without being put to the expense of any reimbursement of its past maintenance.

#### SUPERVISION OF STATE CARE BY CITIZENS' ASSOCIATION

The relations between the child and state are controlled by an independent body called the Orphans' Protection Society, which is chosen from among the citizens of the community and is invested with magisterial authority. The result is expected to be a decrease in infant mortality, and also in the number of juvenile criminals, because it has been found that the majority of such criminals were those who had been abandoned to chance in their early years.

#### MORAL WELFARE OF CHILDREN GUARDED

The Hungarian government also takes measures to prevent the corruption of children's morals. By an order of the minister of the interior, children are taken charge of by the state if it is found that they are being brought up in immoral surroundings. Children in such a case, even though the parent may be in a position to provide for all physical wants, are removed from these evil influences.

#### EXPENSE TO THE STATE

By protecting children in these various ways, the state is accomplishing a great work which cannot fail to have a beneficial effect on the whole Hungarian people. The yearly expenditure by the state for the protection of children amounts to $2,000,000.

### The Outlook for Medical Men in Hungary

The number of medical men in Hungary is increasing constantly, but the prospects of the practitioners are not increasing at the same rate. This is chiefly important for a large percentage of the present doctors in Hungary, for as an investigation conducted by a medical corporation in this country shows, fully 32 per cent. of all medical students and recently graduated doctors come from the poorest and often lowest strata of the population. Therefore medical organization could not be successful in this country, for the newly qualified M.D. is always willing to do anything to earn even a small living as quickly as possible. The Hungarian ministry for education has just now ordered that the holders of diplomas gained abroad (Austria included) can apply for the right to practice only under the condition that they produce proofs of having passed examinations absolutely equivalent to those required from a medical student in Hungary (knowledge of Latin, Greek, an equal curriculum, and the same subjects as are required in Hungary).

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## *Marriages*

JOSEPH B. COX, M.D., to Miss Dollie Clements, both of Howell, Ind., March 1.

EBB. C. JOHNSTON, M.D., to Miss Madge Good, both of Chattanooga, Tenn., February 23.

EUGENE D. REGAN, M.D., to Miss Marion Smith, both of Milwaukee, Wis., February 22.

A. F. MCKAY, M.D., to Mrs. Laura V. Smith, both of Colorado Springs, Colo., February 22.

EUGENE E. COERPER, M.D., Fredonia, Wis., to Miss Madeline A. Oppen of Milwaukee, February 22.

PAULINE I. MYERS TOWNSEND, M.D., and Lawrence A. Hanson, both of Marshalltown, Ia., recently.

HARRY WILLIAM ACKERMANN, M.D., Rockford, Ill., to Miss Maud Goodspeed of Elgin, Ill., February 21.

ISAIAH J. WATERMAN, M.D., Creston, Ia., to Miss Rachel Kegley of Colfax, Ia., at Des Moines, February 20.

CLAUDE W. ASBURY, M.D., Hymera, Ind., to Miss Abby Lucas of Sullivan, Ind., at Terre Haute, Ind., February 21.

FRANK M. HUMPHREY, M.D., Bluemont, Va., to Miss Lillian Rosa Belle Talbott, at Washington, D. C., February 22.

FRANK JOHN HIRSCHBOECK, M.D., Chisholm, Minn., to Miss Elizabeth Robertson Carmichael of Lansing, Mich., February 16.

# Deaths

**Walter Remsen Brinckerhoff,** research worker and pathologist, who spent five years as director of the Molokai (H. I.) Leprosy Investigation Station of the U. S. P. H and M.-H. Service; died at his home in Jamaica Plain, Boston, Mass., March 2, from pneumonia, aged 36. Dr. Brinckerhoff graduated from Harvard University in 1897, and from Harvard Medical School four years later. His expert training in pathology was obtained in the laboratory of the Boston City Hospital, where he was successively intern and second and first assistant in pathology. In 1902 he was made assistant in pathology in his alma mater. Two years later he was made a fellow of the Rockefeller Institute for Medical Research, and in 1905 was appointed physician to the Carnegie archeologic expedition to the Transcaspian Territories. He made researches on the white cells of the blood and small-pox, carrying on the latter work in Boston in 1901 and 1902, and in Manila in 1903 and 1904. In 1906 he was placed in charge of the Leprosy Investigation Station at Molokai, and remained there for nearly five years, returning a few months ago to accept the assistant professorship of pathology in Harvard University. He was a member of the Massachusetts Medical Society, the American Association of Pathologists and Bacteriologists and the Society of Experimental Medicine. Dr. Brinckerhoff was highly esteemed by his associates, and his untimely death deprives the scientific world of a notable research worker.

**William Worrall Mayo, M.D.,** pioneer surgeon of Minnesota, died at his home in Rochester, March 6, aged 91. He was born near Manchester, England, received his preliminary education at Manchester College, and took his medical lectures at the Indiana State Medical College in 1852, and at the University of Missouri Medical Department, Columbia, from which he received the ad eundem degree of M.D. in 1854. He first settled in Lafayette, Ind., but soon moved to Rochester, Minn. He was for many years a member of the American Medical Association and was president of the Minnesota State Medical Association in 1872. Soon after his arrival in Minnesota he was made surgeon-in-chief of the provost-marshall's office for the southern district of Minnesota. Dr. Mayo was the pioneer surgeon of the northwest and established a reputation which has resulted in making Rochester the surgical Mecca of the United States.

**Albert Sydney Ashmead, M.D.,** of New York City; research worker in leprosy, pellagra and Asiatic diseases; died in Jefferson Hospital, Philadelphia, February 20, after an operation for disease of the intestines, aged 60. He received his medical degree from the University of Pennsylvania, Philadelphia, in 1869, and four years later was appointed foreign medical director of the Tokyo Fu Hospital, Tokyo, Japan. He also taught the first class of students in the Tokyo Charity Hospital Medical School. After three years he returned and practiced in Doniphan County, Kan.; and while there was local surgeon for the St. Joseph and Grand Island Railroad. In 1882 he removed to New York City. He was one of the founders of the Berlin Leper Conference of 1897, and contributed largely to the literature of leprosy.

**Thomas Berton Davis, M.D.** University of Louisville, Ky., 1869; a member and formerly president of the Arizona Medical Association; organizer and first president of the Yavapai County Medical Society; a pioneer physician of Arizona; formerly medical cadet and acting assistant surgeon, U. S. Army, with Civil War service; died at his home in Prescott, February 17, from intestinal obstruction, aged 66. At a special meeting of the Yavapai County Medical Society, resolutions were unanimously adopted setting forth the high personal and professional attainments of Dr. Davis, and expressing regrets at his death. These resolutions were endorsed by the druggists of the city.

**Edwin H. Carter, M.D.** Eclectic Medical Institute, Cincinnati, 1865; Rush Medical College, 1897; for several years a member of the Iowa State Board of Health; and State Board of Medical Examiners; vice-president of the Iowa Public Health Association; formerly professor of surgery and clinical surgery, theory and practice of medicine and clinical medicine, and dean of the faculty of Drake University Medical Department; died at his home in DesMoines, February 24, from cerebral hemorrhage, aged 74.

**James Crawley Donoghue, M.D.** *cum laude,* Harvard Medical School, 1897; of Boston; a member of the American Medical Association; instructor in histology in his alma mater; and last year appointed instructor in diseases of the blood in Tufts College Medical School; physician for twelve years at the Boston Dispensary and visiting physician to St. Mary's Infant Asylum; died at the home of his parents in Georgetown, Mass., February 26, aged 46.

**Franklin Cooley, M.D.** University of Louisville, Ky., 1848; surgeon of the Tenth Missouri Volunteer Infantry and Seventh Missouri Volunteer Cavalry during the Civil War; for sixteen years a member of the local pension examining board of Lexington, Mo.; founder of the first medical college in Kansas City, and professor of surgery for three years; died at the home of his daughter in Kansas City, February 16, aged 90.

**Edward Hitchcock, M.D.** Harvard Medical School, 1853; senior professor and professor of hygiene and physical education in Amherst (Mass.) College and of physical culture and hygiene in Cornell University; a pioneer in the physical training of students, and the author of a number of text-books on physiology and anatomy; died at his home in Amherst, February 15, aged 82.

**Floyd Preston Sheldon, M.D.** University of Michigan, Ann Arbor, 1878; an eye and ear specialist of New York City; and a director and vice-president of the Citizens Loan and Saving Association; oculist and aurist to the Home for the Friendless, and consulting oculist to the Webb Home; died at his home in New York City, February 18, from nephritis, aged 53.

**Thomas James Manahan, M.D.** Harvard Medical School, 1899; assistant surgeon on the hospital ship *Bay State* during the Spanish-American War; a member of the staff of the Massachusetts General Hospital, and proprietor of the McDonald Hospital, Corey Hill, Brookline; died in that institution, February 14, from pneumonia, aged 37.

**Francis M. Greene, M.D.** Jefferson Medical College, 1860; a member of the Kentucky State Medical Association; for more than half a century a practitioner of Fayette County, Ky.; acting assistant surgeon U. S. Army during the Spanish-American War; died at his home in Lexington, February 19, from senile debility, aged 77.

**Homer Baxter Sprague, M.D.** Bellevue Hospital Medical College, 1881; a member of the Medical Society of the State of New York; for twenty-six years a practitioner of Yorkville, New York City, and a prominent social worker; a member of the State Lunacy Commission; died at his home, February 25, from pneumonia, aged 51.

**Carroll Thrasher, M.D.** Cooper Medical College, San Francisco, 1900; at one time police surgeon of San Francisco, and superintendent of the small-pox hospital; and later surgeon on a steamer plying between San Francisco and Panama; died suddenly at his home in San Francisco, February 10, from heart disease, aged 34.

**Llewellyn Thomas Botsford, M.D.** New York Homeopathic Medical College, New York City, 1878; for several years health officer of Colton, N. Y., and for six years coroner of St. Lawrence County; a member of the board of education of Canton for many years; died at his home in Potsdam, February 8, from diabetes, aged 58.

**Stephen Tabor Birdsall, M.D.** Homeopathic Medical College of Pennsylvania, Philadelphia, 1868; New York Homeopathic Medical College and Hospital, New York City, 1868; a member of the American Electrotherapeutic Association; died at his home in Glens Falls, N. Y., January 27, from cerebral hemorrhage, aged 65.

**James Kelley Farnum, M.D.** University of Michigan, Ann Arbor, 1870; surgeon for the Pere Marquette and Grand Trunk systems for several years; died in the City Hospital, Port Huron, Mich., February 11, from shock following the amputation of a foot as the result of a street-car accident four days before, aged 64.

**Benjamin Franklin Cessna, M.D.** University of Michigan, Ann Arbor, 1852; Jefferson Medical College, 1858; for many years a trustee of Ohio Wesleyan University, in which he endowed a chair of English language and literature; died at his home in Kenton, Ohio, January 1, from acute gastritis, aged 84.

**John C. Nottingham, M.D.** Bennett Medical College, Chicago, 1873; a veteran of the Civil War; at one time treasurer of Delaware County, Ind.; a charter member and one of the organizers of the Saginaw Valley Medical Society; died at his office in Bay City, Mich., February 25, from heart disease, aged 69.

**Alexander S. Stewart, M.D.** Eclectic Medical Institute, Cincinnati, 1865; a pioneer practitioner of South Dakota; a veteran of the Civil War; and a member of the legislature from Pawnee County, Neb., in 1869; died at his home in Hot Springs, S. Dak., January 22, from nephritis, aged 71.

**Hannibal Amilcar Beeson, M.D.** Miami Medical College, Cincinnati, 1879; for many years a practitioner of Leesburg, Ohio; hospital steward and assistant surgeon in the Navy during the Civil War; died at the home of his son in Roswell, N. M., February 11, from angina pectoris, aged 69.

**Thomas K. Reed, M.D.** University of Pennsylvania, Philadelphia, 1864; vice-president and one of the organizers of the First National Bank of Atlantic City, N. J.; a surgeon of volunteers during the Civil War; died at his home in Atlantic City, February 12, from heart disease, aged 72.

**Charles Spinning Cowan, M.D.** Miami Medical College, Cincinnati, 1880; formerly president of the Shelby County (O.) Medical Association, and Siskiyou County (Cal.) Medical Society; died at his home in Fort Jones, Cal., Nov. 26, 1910, from angina pectoris, aged 60.

**John A. Rynard, M.D.** Jefferson Medical College, 1872; formerly councilman and a member of the school board of South Harrisburg, Pa.; local surgeon for the Pennsylvania System at Goldsboro from 1880 to 1888; died at his home in Harrisburg, February 10, aged 71.

**Alonzo R. Stephens, M.D.** Albany (N. Y.) Medical College, 1865; a member of the Bradford County Pension Board; assistant surgeon in the Federal service during the Civil War; died at his home in Herrickville, Pa., February 10, from heart disease, aged 75.

**Philo Kelly Stoddard, M.D.** Buffalo (N. Y.) Medical College, 1848; surgeon of the One Hundred and Sixty-First New York Volunteer Infantry for two years during the Civil War; died at his home in Prattsburg, N. Y., February 3, from gastritis, aged 85.

**Caleb Horace Closson, M.D.** Jefferson Medical College, 1872; a member of the Medical Society of the State of Pennsylvania; first secretary of the Altoona Board of Health; died at his home in that city, February 24, from cerebral hemorrhage, aged 62.

**E. B. Harrell, M.D.** Tennessee Medical College, Knoxville, 1907; a member of the American Medical Association, and of the pension board of Unicoi County, Tenn.; died at his home in Unicoi, Nov. 23, 1910, from typhoid fever, aged 35.

**William J. Middleton, M.D.** Kentucky School of Medicine, Louisville, 1891; a pioneer practitioner of Idaho; for many years a member of the Idaho State Medical Association; died at his home in St. Anthony, January 13, from paresis.

**Wallace Deane Carr, M.D.** University College of Medicine, Richmond, Va., 1908; a member of the Medical Society of Virginia; a specialist in diseases of children; died at his home in Richmond, February 24, from heart disease, aged 35.

**Amy Garrison Brown Kimball, M.D.** Cleveland College of Physicians and Surgeons, 1878; for three years intern in the Northeastern Hospital for Women, Boston; died at her home in Jackson, Mich., January 29, from pneumonia, aged 63.

**Emmet Densmore, M.D.** New York University, New York City, 1885; of New York City; an apostle of natural food and simplicity in living and diet; died at his cottage in Cassadega, Fla., February 19, from tuberculosis, aged 73.

**John J. Sweeney, M.D.** College of Physicians and Surgeons, Baltimore, 1910; of Govanstown, Baltimore; died in Mercy Hospital, February 18, from the effects of bichlorid of mercury, self-administered in mistake for candy, aged 25.

**Nellie Knowles Horn, M.D.** Fort Worth (Tex.) University, 1908; a member of the Tarrant County Medical Society; died at her home in Altus, Okla., January 16, eight days after an operation for cancer of the uterus, aged 36.

**Jesse W. Buell, M.D.** New York Homeopathic Medical College, New York City, 1877; attending physician to the Rochester (N. Y.) Homeopathic Hospital; died at his home in that city, February 17, from pneumonia, aged 59.

**Thomas E. Briggs, M.D.** Saginaw Valley Medical College, Saginaw, Mich., 1903; of Saginaw; a member of the Michigan State Medical Society; died at the Saginaw General Hospital, February 23, from pneumonia, aged 32.

**Arthur B. Ralph, M.D.** Washington University, St. Louis, 1859; of Orrick; a member of the Missouri State Medical Association; died at the home of his daughter in Orrick, February 17, from pneumonia, aged 74.

**Gustavus Adolphus Tucker, M.D.** Jefferson Medical College, 1854; for thirty-one years an employee of the *Chattanooga Times;* died at the home of his daughter in Hill City, Chattanooga, Tenn., February 10, aged 82.

**Joseph W. Bourne, M.D.** State University of Iowa, College of Homeopathic Medicine, Iowa City, 1889; formerly of South Auburn, Neb.; died at his home in Omaha, February 14, from arteriosclerosis, aged 53.

**George W. Seymour, M.D.** New York Homeopathic Medical College, New York City, 1872; for more than forty years a practitioner of Westfield, N. Y.; died at his home, February 13, from pneumonia, aged 69.

**David Dunn Martin, M.D.** Starling Medical College, Columbus, O., 1851; (license, Okla., 1908); a practitioner for nearly sixty years, died at his home in Newkirk, Okla., February 5, from cancer, aged 82.

**James M. Patterson, M.D.** University of Nashville, Tenn., 1859; a Confederate veteran; formerly a member of the Tennessee legislature; died at his home in Verona, Tenn., February 18, aged 82.

**Rufus C. Corey, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1887; of Seattle, Wash.; died in the City Hospital, February 13, from the effects of an overdose of morphin, aged 46.

**William G. Mangold, M.D.** College of Physicians and Surgeons, New York City, 1889; of Brooklyn, N. Y.; died in the Brooklyn Hospital, February 15, from cerebral hemorrhage, aged 47.

**Edward Clay Reid, M.D.** Louisville (Ky.) Medical College, 1875; president of the school board of Tulsa, Okla.; died at his home in that place, Nov. 20, 1910, from acute nephritis, aged 58.

**Napoleon B. McKay** (license, Kansas, 1901); of America City; for fifty-four years a practitioner of Kansas; died at the home of his daughter near America City, February 4, aged 84.

**James Kennedy Johnstone, M.D.** Victoria College, Coburg, Ont., 1870; government inspector of electric meters; died at his home in Toronto, Aug. 12, 1910, from pneumonia, aged 61.

**Lee Washington Fulton, M.D.** Rush Medical College, 1869; of New Berlin, Ill.; a practitioner for fifty-four years; died at the home of his son in Alexander, Ill., February 18, aged 73.

**Sands Macamly Davis, M.D.** New York University, New York City, 1853; died at his home in Sugar Loaf Valley, Mass., January 8, from organic heart disease, aged 81.

**Henry J. Weyl, M.D.** Eclectic Medical Institute, Cincinnati, 1875; a veteran of the Civil War; died at his home in Decatur, Ill., February 23, from prostatic hemorrhage, aged 75.

**Albert Seessel, M.D.** University of Leipsic, Germany, 1876; of New York City; died in the German Hospital, New York City, Dec. 24, 1910, from lobar pneumonia, aged 60.

**Henry Lewis Perney** (license, Iowa, years of practice, 1886); for nearly half a century a practitioner; died at his home in Wilton, February 13, from cancer, aged 74.

**Charles Westley Throckmorton, M.D.** Western Pennsylvania Medical College, Pittsburg, 1909; died at his home in Johnstown, Pa., February 16, from pneumonia; aged 23.

**Joseph E. Ferte, M.D.** Ecole de Médecine et de Chirurgie, Montreal, 1853; died at his home in Livingston, Mont., February 12, from cerebral hemorrhage, aged 78.

**John F. Michael, M.D.** College of Physicians and Surgeons, Baltimore, 1885; died at his home in Morgantown, W. Va., Sept. 26, 1910, from prostatitis, aged 70.

**Frank B. Behner, M.D.** Kentucky School of Medicine, Louisville, 1902; of Marion, Ohio; died in Richmond Township, February 19, from tuberculosis, aged 30.

**George Thomas Borden, M.D.** Hahnemann Medical College, Philadelphia, 1876; died at his home in Caledonia, N. Y., February 14, from nephritis, aged 57.

**N. W. Williams, M.D.** Tulane University, New Orleans, 1875; formerly of Holly Springs, Miss.; died at his home in Gulfport, Miss., February 21, aged 53.

**Mathew Wilkinson Ross, M.D.** Jefferson Medical College, 1889; died at his home in Scranton, Pa., Sept. 3, 1910, from sarcoma of the lower jaw, aged 56.

**Constantine H. Murphy, M.D.** Washington University, St. Louis, 1854; died at his home in Chesterfield, Ill., February 13, from heart disease, aged 83.

**Jeremiah B. Dustin, M.D.** Medical College of Ohio, Cincinnati, 1874; died at his home in Bidwell, O., February 17, from cerebral hemorrhage, aged 62.

**William M. Glass, M.D.** Medical College of Indiana, Indianapolis, 1871; died at his home in Summitville, Ind., January 27, from nephritis, aged 80.

[**Dr. Daniel Franklin Royer** is not dead; see California news, this issue.]

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# Association News

## THE LOS ANGELES SESSION

### List of Meeting Places and Section Hotels—The Northern Railroad Routes

We give here a schedule of meeting places for the various sections and other gatherings and of the hotels designated for the various sections. A map of Los Angeles will be published in the special number of THE JOURNAL to be issued in May giving full details of the session. Some information about the meeting is being published in each issue of THE JOURNAL. For example, a list of hotels, with description and rates, appeared February 18, page 527.

#### THE NORTHERN RAILROAD ROUTES

DR. M. L. HARRIS, Chicago, chairman of the Committee on Transportation, makes the following announcement, continuing the subject of railroads from the issues of the past few weeks:

The northern routes include the Northern Pacific, the Chicago, Milwaukee & Puget Sound, the Great Northern and the Canadian Pacific railroads, and, for a part of the distance, the Oregon Short Line. All of these routes lead to the northwest, namely, to Vancouver, Seattle, Tacoma and Portland.

On the Canadian Pacific the mountain scenery is perhaps the most beautiful on this continent, and this part of the great Rocky Range frequently has been called the Alps of America. On the other lines, although the mountain scenery is very beautiful, the greatest attraction is undoubtedly the Yellowstone Park. All those who have not visited this great National Park should not fail to improve this opportunity to see the wonderful geysers, the lake, the beautiful Yellowstone falls, the deep canyon with its gorgeous colorings, and many other interesting formations.

There are many beautiful and interesting sights along the Columbia River, including the great salmon fisheries, which are the largest in the world.

The Shasta route between Portland and San Francisco is justly famous, for the stateliness and grandeur of Mount Shasta is unsurpassed.

For those who enjoy the water there is an excellent line of boats between San Francisco and Portland.

The rate over any of these northern lines is $62.50 round trip from Chicago, plus $15 arbitrary for the coast line, but attention is again directed to the fact that this rate is not available for both going and returning by a northern route.

As it requires so much time thoroughly to see and enjoy the Canadian Rockies, Yellowstone Park and the other places of interest, it is suggested that it is perhaps better to go by one of the southern or central routes and to return by a northroute; stop-overs on the return trip may be had at almost any place and for any length of time within the final limit of the ticket, September 15.

#### SPECIAL TRAINS

Announcement of special trains will be made in THE JOURNAL in the issue of March 25. All who are concerned in the arranging of special trains to Los Angeles from any part of the United States, or from Los Angeles on the return trip, are asked to notify THE JOURNAL at once with full particulars so that this announcement may be complete.

# Correspondence

### Federation of Women's Clubs Starts Educational Campaign in Social Hygiene

*To the Editor:*—It may be of interest to your readers to know that the General Federation of Women's Clubs, with a membership of 800,000, has decided to take up an educational campaign on social hygiene. A committee of three physicians and one lay woman was appointed by the president to start the work. The opportunity is a great one, but the task of doing it wisely and yet of facing the facts honestly is no small one. A large number of women in the federation are not even acquainted with the name "social hygiene;" a still larger number are afraid of the subject.

Our experience in Illinois has been of the most encouraging nature. In the last four years a committee, consisting of a number of women physicians and some lay members of the Chicago Woman's Club, in cooperation with the Chicago Woman's Club and the Chicago Society for Social Hygiene, carried on extensive educational work.

Before almost every club in the city and in the state one or more lectures on social hygiene have been given. Members of the committee have also spoken before mothers' meetings and fraternal organizations. Several public courses of lectures, including the anatomy and physiology of the organs of generation, embryology, sexual awakening, dangers of syphilis and gonorrhea, have been given at the Chicago Woman's Club, at the Chicago Public Library, and at the Chicago Academy of Science. The audiences in many cases were large and apparently took the profoundest interest in the subject.

(*Continued on page 761*)

LIST OF SECTION MEETING PLACES AND HOTELS

| Section, etc. | Name of Hall | Location of Hall | Hotel Headq'ters | Location of Hotel |
|---|---|---|---|---|
| General Hotel Headquarters | ..... | ..... | Alexandria ..... | 5th and Spring |
| Registration ..... | Hamburger (4th floor).. | 8th and Broadway... | ..... | ..... |
| House of Delegates..... | Armory..... | 7th and Spring..... | ..... | ..... |
| Commercial Exhibit..... | Hamburger (4th floor).. | 8th and Broadway... | ..... | ..... |
| President's Reception..... | Shrine Auditorium ..... | 655 W. Jefferson.... | ..... | ..... |
| Smoker ..... | Hamburger (roof garden) | 8th and Broadway... | ..... | ..... |
| Scientific Exhibit..... | Hamburger (4th floor).. | 8th and Broadway... | ..... | ..... |
| Information, P. O., etc..... | Hamburger (4th floor).. | 8th and Broadway... | ..... | ..... |
| Practice of Medicine..... | Majestic Theater ..... | 8th and Broadway... | Lankershim ..... | 7th and Broadway |
| Nervous and Mental Diseases..... | Walker (McKinley) .... | 7th and Grand..... | Westminster ..... | 4th and Main |
| Diseases of Children..... | Walker (Lincoln) ..... | 7th and Grand..... | Westminster ..... | 4th and Main |
| Dermatology ..... | Blanchard (Broadway).. | 3d and Broadway... | Hollenbeck ..... | 2d and Spring |
| Pathology and Physiology..... | Blanchard (Symphony).. | 3d and Hill..... | Hollenbeck ..... | 2d and Spring |
| Surgery ..... | Baptist Auditorium .... | 5th and Olive..... | Alexandria ..... | 5th and Spring |
| Genito-Urinary Diseases..... | Blanchard (Music) ..... | 3d and Hill..... | Hollenbeck ..... | 2d and Spring |
| Obstetrics ..... | Baptist Aud. (Berean).. | 5th and Olive..... | Hayward ..... | 6th and Spring |
| Preventive Med. and Public Health.. | Hamburger's ..... | 8th and Broadway... | Alexandria ..... | 5th and Spring |
| Pharmacology ..... | Walker (Garfield) ..... | 7th and Grand..... | Lankershim ..... | 7th and Broadway |
| Ophthalmology ..... | Parish (2d floor)..... | 6th and Olive..... | Van Nuys ..... | 4th and Main |
| Laryngology and Otology..... | Parish (1st floor)..... | 6th and Olive..... | Angelus ..... | 4th and Spring |
| Stomatology ..... | Dental College ..... | 5th and Wall..... | King Edward.... | 5th and Los. A. |

[The Local Committee on Arrangements sends the above schedule of meeting places and of the hotels designated as headquarters.]

This committee feels very strongly that in order to awaken similar interest among women all over the country, the cooperation of physicians is absolutely necessary. Physicians are the properly qualified people to discuss the dangers of disease, as well as to teach the lay public the principles of health in a rational and scientific manner. The lay public must understand these principles if we are to have an advance in the control of venereal disease. The principles of ignorance on matters of health and disease have been the methods of the past and have served us very poorly.

The committee has sent out letters to all state federations of women's clubs requesting them to urge the clubs in their federations to have at least one meeting during the months of March and April on the subject of social hygiene, advising them to apply for speakers to the physicians in their locality.

The committee has also suggested that the following outline be substantially adhered to by the clubs: (1) How prevalent is gonorrhea? (2) How is it contracted and communicated? (3) What are its dangers to mother and child? (4) What is its treatment and how can it be exterminated? (6) How prevalent is syphilis? (7) How is it contracted and communicated? (8) What are its dangers to mother and child? (9) What is its treatment and how can it be exterminated?

This apparently extreme outline for lay clubs is deemed necessary because the temptation to dodge the real issue is too great.

It is hoped that the physicians in each community will respond to the request on the part of women's clubs for such lectures.

RACHELLE S. YARROS, M.D.,
Chairman Social Hygiene Committee of the General Federation of Women's Clubs.

## The Septic Tank

*To the Editor:*—THE JOURNAL, Dec. 10, 1910, contains an editorial on the septic tank in which there is a quotation from the well-known sanitary engineer, Mr. Rudolph Hering. The quotation does not fairly represent Mr. Hering's views, and the general trend of the editorial is hardly in keeping, apparently, with the present state of engineering thought.

It is true that the former septic tank has proved a disappointment; it is true that the sludge so treated is often more difficult to manage than the untreated sewage; it is true that not unfrequently the rising sludge breaks up the scum, and creates a disagreeable condition; but it is not true that the septic tank idea is being abandoned.

In the Emscher Valley, in Germany, there is a sewage district of 308 square miles, containing a population of about 2,000,000 persons, and the population is rapidly increasing. Dr. Ing. Karl Imhoff, of Essen, is the Chief of the Sewerage Department (*Abwasserabteilung*) of the Emschergenossenschaft. The Emscher, or, as it is more frequently called, the Imhoff tank is proving thoroughly satisfactory. In that German district there are seven now in operation, serving 250,000 persons. Ten more are being built, and thirty additional tanks are projected for the district. In America, a trial tank has been in operation for some time at Philadelphia, and another is located at the Thirty-Ninth Street testing station of the Chicago Drainage District. A large tank is under construction at Holmsburg, near Philadelphia, and another is being built to care for the entire sewage of Atlanta, Ga. According to a recent number of the *Municipal Engineer*, Erie, Pa., is to construct one, on the advice of Mr. Hering. Similar tanks have been advised for Batavia and Oswego, N. Y.

In the *Engineering News*, Dec. 1, 1910, Mr. Hering says: "It was apparent to me that the sludge question, which had been the *bête noire* for 30 years, was nearing a satisfactory solution. The Imhoff tank, based on what had appeared to me a rational principle, was completely fulfilling its promises of two years before by transforming the compacted suspended matter into inoffensive humus material. The reason for this inoffensiveness was a complete digestion under favorable conditions, of all the material that usually becomes foul."

The gases arising are approximately 75 per cent. marsh gas, and 25 per cent. carbon dioxid. (In the articles of Dr. Imhoff in the *Engineering Record*, and by Hering and Saville in the *Engineering News*, the carbon dioxid is called monoxid, but in a private communication to me Dr. Imhoff corrects the misstatement.) Saville says that it has only been necessary to remove the sludge from some of the tanks once or twice a year. In others it was done more frequently. The removed sludge is inoffensive, and when spread on the drying beds becomes spadeable in from one to four days.

The test tank in Chicago is by the side of the Dortmund test tank. The effluent from each is perfectly clear, but whereas that from the Dortmund tank is very offensive, on account of the large amount of hydrogen sulphid contained, that from the Imhoff is as sweet as spring water.

The drying bed for the Bochum, Germany, plant, which cares for the sewage of 145,000 persons, is only half an acre in size, and the entire sewage of Schwerin, Mecklenburg-Schwerin, is treated within sight of the ducal palace, without offense.

HENRY B. HEMENWAY, M.D., Evanston, Ill.

[COMMENT:—We are at a loss to understand the statement in the first paragraph of the above communication regarding the views of Mr. Hering. If Mr. Hering's own words do not represent his views, we cannot understand why he should have written them or whose views they do represent.

As regards the Imhoff tank, our correspondent is evidently unfamiliar with the history of septic tank treatment, with the characteristics of the Imhoff tank itself and with current nomenclature. The Imhoff tank, as is well-known among sanitary engineers, is so arranged that the sewage with which it is filled is not allowed to reach a "septic" condition. The Imhoff tank is ordinarily spoken of as a purification tank or, as Mr. Saville calls it in the article cited by Dr. Hemenway, "strictly speaking a clarification tank." The distinction between the Imhoff tank and what for many years has gone under the name of septic tank is clear and sharp, and is thoroughly understood by practical workers in this field. —EDITOR.]

## Encouragement of the Nostrum Evil by "Reputable" Physicians

*To the Editor:*—Permit me to ask a question. Why is it that medical men of repute will write articles for so-called medical periodicals whose advertising pages are reeking with advertisements of the worst nostrums, the very kind that the presumed leaders of the profession have set their faces against? I have before me a sample copy of such a periodical making a specialty of surgery. The leading article is written by an eminent surgeon of Baltimore, who specializes in gynecology. What are we to think about such doings? If he is of the rank and file that fight the nostrum evil, why does he not write only for such periodicals as have taken up this fight?

A. E. CONTER, M.D., Apalachicola, Fla.

[COMMENT.—We do not know why reputable physicians will write for such medical journals as those described by our correspondent. Probably for the same reason that equally reputable men will allow their names to appear as "associate editors" or "collaborators" in connection with the same kind of journals. The most disheartening phase of the fight for decency and truthfulness in medical advertising is the apparent indifference, on the part of many physicians of high standing, to the character of the advertising found in medical journals for which they subscribe and to which they contribute. As has been stated time and again in THE JOURNAL, if physicians would insist that the journals they patronize shall be as clean in their advertising pages as they are in their editorial pages, the evils connected with the "proprietary" business would be solved in six months. So long as the leading members of the medical profession give financial support—as subscribers—and moral support—as contributors—to those medical journals whose advertising pages are a disgrace to medicine, so long will the great American fraud—as it relates to the medical profession—flourish. So long, too, will these journals that are trying to be decent labor under a grievous disadvantage.—EDITOR.]

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## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### WANTED—FICTION EXTOLLING THE AIMS OF PHYSICIANS

*To the Editor:*—Kindly send me the names of books—modern fiction—in which the aims and ideals of modern physicians are extolled. MONTE STERN, M.D., South St. Paul, Minn.

ANSWER.—To reply to our correspondent's query with anything like completeness would require much time and original investigation. It would be well worth doing, however, and we suggest the subject as an inviting one to some physician with literary tastes. If our readers will inform us of books which they have found worthy of commendation along this line we will make up a list and print it in this column for the benefit of all. Such a list will doubtless be of service, as a suggestion for gifts, for placing on reception-room tables, and for the leisure reading of persons interested in the lives of physicians, etc.

### THE MANDELBAUM TEST IN TYPHOID FEVER

*To the Editor:*—Will you kindly publish in your department of Queries and Minor Notes the method of carrying out and the value of Mandelbaum's test in typhoid fever? E. D. W.

ANSWER.—Mandelbaum's method for rapid and early differentiation of typhoid was described in THE JOURNAL, March 5, 1910, page 827, with illustrations of the pipettes used and of the negative and positive reactions as observed in the hanging drop. Corroborative testimony as to its value was mentioned in THE JOURNAL, Aug. 6, 1910, page 543, and a few other writers since have endorsed its value, especially for detection of healthy bacillus-carriers. It does not seem to have been given much of a trial in this country to date.

### TUBERCULOSIS SANITARIUMS—PUBLIC AND PRIVATE

*To the Editor:*—Can you supply me with a list of the tuberculosis sanitariums in this country, both private and public?
WALTER RITTENHOUSE, M.D., Lake Geneva, Wis.

ANSWER.—A book entitled "The Campaign Against Tuberculosis in the United States, Including a Directory of Institutions Dealing with Tuberculosis in the United States and Canada," may be obtained from Dr. Livingston Farrand, 105 East Twenty-Second Street, New York City. This is a cloth-bound book of 467 pages and gives much other information besides that mentioned in the title. The price is $1.

### REMOVAL OF IMPACTED CERUMEN FROM THE EAR

*To the Editor:*—The removal of hardened wax from the ear is often a tedious matter, because of the time required to soften it with the usual solution of soda, glycerin and water. I have found that a mixture of acetic acid 1 part and water 3 parts has no injurious effect and will soften the wax very quickly. It may be dropped in and allowed to soak, or used with a syringe in large quantities. A. T. BLACHLY, M.D., Woodstock, Ore.

ANSWER.—Hydrogen dioxid is another efficient agent. It should be dropped carefully into the ear, with due regard to the pressure that may be caused if the escape of the resultant foam is hindered.

## The Public Service

### Medical Department, U. S. Army

Changes for the week ended March 4, 1911.

Wolven, Homer F., D.S., reports for temporary duty at Boise Barracks, Idaho.

Ford, Joseph H., major, ordered to duty with troops from Fort Wadsworth, N. Y., to Fort Crockett, Texas.

Stallman, George E., D.S., granted three months' leave of absence about June 15, 1911.

Woodbury, Frank T., major, granted leave of absence for one month and ten days, about April 21, 1911.

Dean, Elmer A., major, granted leave of absence for one month, about March 1, 1911.

Wheate, J. Marshall, M.R.C., orders to proceed to the Philippine Islands for duty is revoked.

Wheate, J. Marshall, M.R.C., relieved from duty at Fort Lincoln, N. Dak., and ordered to Boise Barracks, Idaho, for duty.

Clarke, Joseph T., lieut.-col., assumed temporary charge of office of chief surgeon, Department of the Columbia, and as attending surgeon, department headquarters.

Welles, E. M., Jr., lieut., ordered to proceed from Army General Hospital, San Francisco, to Presidio of Monterey, Cal., for temporary duty.

Kremers, E. D., lieut., left Presidio of San Francisco, en route to San Francisco, for duty as surgeon, U. S. Army transport *Buford*, during the trip to China and return.

Field, Peter C., major, relieved from duty at Fort Slocum, N.Y., and ordered to Philippines division for duty on the transport sailing from San Francisco about June 5, 1911.

Miller, Reuben B.; Eastman, William R., and Hall, James F., captains, ordered to Washington, D. C., on May 22, 1911, for examination to determine their fitness for promotion.

Stallman, George E., D.S., ordered to Fort Clark, Texas, for temporary duty.

Kellogg, Preston S., M.R.C., granted leave of absence for one month.

Qualls, Guy L., M.R.C., recently appointed, is ordered to Jefferson Barracks, Mo., for duty.

Connelly, Philip B., M.R.C., recently appointed, is ordered to Fort Monroe, Va., for duty.

Mitchell, Leopold, M.R.C., recently appointed, is ordered to Washington Barracks, Washington, D. C., for duty.

Baker, Frank C., major, left Fort Moultrie, S. C., on tour of inspection of Medical Department, North Carolina National Guard.

Newlove, George, M.R.C., reports arrival at Fort Sam Houston, Texas, for temporary duty in the field.

Myers, William H., M.R.C., reports for temporary duty at Fort Moultrie, S. C.

### U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended March 1, 1911.

White, J. H., surgeon, granted eighteen days' leave of absence from Feb. 16, 1911, without pay.

Earle, B. J., P. A. surgeon, granted ten days' leave of absence from March 1, 1911.

Lloyd, B. J., P. A. surgeon, directed to proceed to Spokane, Wash., on special temporary duty, Feb. 28, 1911.

Creel, R. H., P. A. surgeon, directed to make such trips as may be necessary in investigation of oyster beds of Virginia, Feb. 17, 1911.

Turnipseed, D. C., asst.-surgeon, directed to proceed to Manila, P. I., and report to chief quarantine officer for duty, Feb. 16, 1911.

Stiles, C. W., professor of zoology, detailed with the mine rescue car of the department of the interior on special temporary duty Feb. 14, 1911.

Allan, A. Smith, A. A. surgeon, granted seven months' leave of absence from April 1, 1911, without pay.

Hasse, P. F., A. A. surgeon, granted seven days' leave of absence from Feb. 11, 1911, under paragraph 210, Service Regulations.

McLarty, A. A., A. A. surgeon, granted thirty days' leave of absence from Feb. 25, 1911.

Schug, F. J., A. A. surgeon, granted thirty days' leave of absence from Feb. 18, 1911.

Storrs, H. R., A. A. surgeon, granted thirty days' leave of absence from March 1, 1911.

Wood, J. E., A. A. surgeon, granted fifteeen days' leave of absence from Feb. 24, 1911.

## Society Proceedings

### COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

### CONFERENCE ON MEDICAL EDUCATION AND ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION

*Seventh Annual Conference, Held in Chicago, March 1-3, 1911*

DR. ARTHUR DEAN BEVAN in the Chair

Dr. A. D. Bevan stated that as chairman of the Council on Medical Education of the American Medical Association he had for seven years made a special study of medical education including the conditions in foreign countries. From this study the following conclusions may be drawn: First, medicine is to-day a science just as chemistry and physics are sciences. The art of medicine to-day rests as firmly on a scientific basis as does the practical application of chemistry and engineering, and as there can be but one science of chemistry, so from now on there can be but one science of medicine. The fads and "pathies" that existed under the old empirical practice of medicine become impossible in the light of modern scientific medicine. A thorough training in the sciences on which medicine is based is now essential and a thorough

familiarity with disease processes in the living patient must be mastered before the student is permitted to begin practice.

A close analysis of all the facts and a careful study of the results arrived at in other countries leads to the conclusion that the minimum amount of training which will make of a medical student a safe practitioner of medicine is the following: After graduating from high school he should have at least one year of training in physics, chemistry and biology; two years in the science of anatomy, physics, pharmacology and pathology; two years in the study of medicine, surgery, obstetrics and the specialties, with the opportunity of studying these subjects in the dispensary and hospital, and lastly a year's practical training as an intern in a hospital.

The program of this conference has been framed for the purpose of presenting in detail this conception of the essentials in modern education. I hope that as a result of this meeting the medical schools and the state boards represented will use all the influence in their power to secure, as soon as possible, the adoption of these requirements in their own schools in their own state.

### Progress and Needs in Medical Education

DR. N. P. COLWELL, Chicago, Secretary of the Council on Medical Education: Changes for the better in medical education have been particularly rapid since 1904 when the Council on Medical Education was organized. Up to that year the number of medical colleges continued to increase regardless of the frequently published references to the overcrowded condition of the profession and reports showing the need of better rather than of a larger number of medical colleges. The increase in number continued until in 1904 the maximum of 166 medical colleges was reached, constituting practically half of the world's supply.

Since 1904, however, there has been a decrease in the number of colleges until now the number has been reduced to 129. Of the forty-four colleges closed since 1907, twenty colleges were closed outright, and twenty-four by merging with others. This decrease has been due to the closing of weak and inferior colleges, or by the merging of two or more medical colleges, forming in each instance one invariably stronger and better equipped college. Instead of a serious matter, therefore, this decrease in the number of medical colleges has been of positive benefit, resulting as it has in the formation of fewer but better colleges.

Since 1904 there has also been a decided advancement in the standards of admission. Until 1904, only three or 1.9 per cent. of all medical colleges were requiring for admission more than a high-school education, but now 41 or 31.8 per cent. (nearly one-third) of all colleges are requiring for admission one or more years of collegiate work, and the teaching of medicine as a whole has been placed more largely on a university basis.

In the last seven years, however, other radical improvements in medical education have taken place. College terms have been lengthened, new methods of teaching have been adopted, more salaried teachers have been employed, more endowments secured, new buildings erected, better laboratories and laboratory equipment installed and better hospital connections and clinical facilities secured. In the last year, several of the larger medical schools have received large donations, have been thoroughly reorganized, have built teaching hospitals, and have adopted higher standards of admission. And reports of other similar changes of importance have continued to come in.

Under the methods and conditions which still exist, there is scarcely any person so ignorant that he cannot gain admission to some medical college. So long as an applicant can pay the required fee, there are still colleges which are only too glad to accept him regardless of his lack of preliminary education. The low-standard colleges referred to can exist only in states where the laws regulating the practice of medicine are inadequate or are not enforced.

The solution of many of the problems of medical education rests in the hands of the state licensing boards and doubtless will be solved by them if they are given a fair chance. In many of the states, the medical boards are seriously handicapped. In the first place, as a rule, the board is too closely connected with politics, and in some states the members are appointed largely for political reasons, and are liable to be changed with every turn of politics. It is often difficult, therefore, to get good men to accept places on the board. In several states, the board is not given full authority in the premises. Either it is hindered, because of a very poor practice act, or the authority is limited or divided by the establishment of special boards for the various medical sects, which make impossible a satisfactory regulation of the practice of medicine. In the fifty states and territories of the Union there are eighty-three different licensing boards—counting the osteopathic.

At most, there should be but one board in each state; that should be a permanent board and should be composed of men appointed for their particular skill in the examining and licensing of physicians, and not for political reasons. If possible, the board should have a permanent secretary who is selected by the board and who is not subject to removal with every change of governors.

Not only should there be but one board in each state, but there should be a single educational standard to which every applicant for license to treat the sick, by whatever means or method, should comply. Let there be but one portal of entry to the practice of medicine. All who are to treat human ailments, no matter whether they are regulars, homeopaths, osteopaths, or the followers of any other school, are alike in that they must make a diagnosis; they must be capable of differentiating between the various diseases in order to treat intelligently the patients who may come to them.

### Entrance Examinations

DR. THOMAS S. FISKE, Secretary of the College Entrance Examination Board, New York City: Certain classes of men may be admitted to the study of medicine with comparative safety on the basis of credentials issued by their former teachers. These are: (1) college graduates and students who have completed at least a part of a college course, when they can present credentials issued by some college in good standing showing that they have studied physics, chemistry and biology, in addition to the fundamental elements of an ordinary education; (2) graduates of accredited high schools, who have completed a four-year course in which the subjects just mentioned have been included. The North Central Association of Colleges and Secondary Schools, like several other similar associations, has prepared a list of accredited high schools whose credentials are recognized by a large number of colleges and universities. In addition to candidates belonging to the two classes already specified and able to present satisfactory credentials, there are numbers of young men who every year demand the privilege of being admitted to the study of medicine. In this number will be: (1) college men and high-school graduates whose credentials do not cover all the required preliminary studies; (2) candidates from unaccredited institutions, that is, from colleges and schools which have not received the privilege of issuing acceptable credentials; (3) candidates of irregular preliminary education, such as those who have been prepared by private tutors, have studied in correspondence schools or in extension courses, or are self-taught. In this irregular class will be included naturally all students who have attended accredited high schools without completing the school course.

Standing at the point of contact between the secondary school and the college, the fundamental principle first in order of importance is that of cooperation between school and college. The board represents a cooperation between the colleges on the one hand, and the secondary schools on the other in respect to a matter of vital importance to both. The secondary schools as well as the colleges have a voice in framing and administering the policies of the board. In the second place, the College Entrance Examination Board does not itself assume power or claim a right to formulate definitions of the requirements for admission to college. In the third place, while the board represents a combined effort on the part of many colleges, it is provided that no college shall

surrender its own individuality. Each institution preserves the right to enforce such standards of excellence as it pleases or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate issued by the board states merely that the holder was examined at a stated time and place in specified subjects, and, as the result of such examinations, received the ratings entered on the certificates.

The following manifest advantages of the examinations held by the College Entrance Examination Board are: 1. They are uniform in subject-matter. 2. They are uniformly administered. 3. They are held at many points to meet the convenience of students at one and the same time. 4. They represent the cooperative effort of a group of colleges, no one of which thereby surrenders its individuality. 5. They represent the cooperation of colleges and secondary schools in respect to a matter of vital importance to both. 6. By reason of their uniformity they aid greatly the work of the secondary schools. 7. They tend to effect a marked saving of time, money and effort in administering college admission requirements.

### Subjects Included in the Two Years of College Work Required for Admission to Medical Colleges

DR. CHARLES R. BARDEEN, Madison, Wis.: During the two years of college work required by the majority of medical colleges which can afford to maintain high preliminary standards, about half the time should be devoted to physics, chemistry, biology and English. The other half should be divided between the study of foreign languages and one or more non-technical studies such as art, history, economics, civics, mathematics and philosophy. The aim of this preliminary college work should be to produce breadth of view as well as to give some understanding of scientific knowledge and methods.

### Five-Year Medical Course

DR. J. G. ADAMI, Professor of Pathology, McGill University, Montreal: From an educational point of view the great danger of democracy lies in the fallacy that since every individual has the right to equal opportunities all individuals must be given the same opportunities. As a consequence, precise and cast-iron regulations would become the order of the day, and one fixed curriculum would be laid down as the *sine qua non*, whereby at 10:30 a. m. across the whole continent, from the Atlantic to the Pacific and from the Polar regions to the Gulf of Mexico, in country school and crowded city, the individual who has attained to a certain standard in a certain year of the course is being taught the subject-matter of a particular chapter of a particular book on a particular subject. In medical education, it is essential that there be established a minimum of knowledge, and also a minimum time requisite for the acquirement of that knowledge. The Council on Education of the American Medical Association has accomplished a work, the value of which it is difficult to estimate, in making this recognized, and in establishing what should be the minimum. Nevertheless, this minimum should not be regarded as the optimum, and no cast-iron routine should be established to which every medical student should be subjected. Hence, in speaking of the five-year course in medicine, now in operation in the leading Canadian schools, it is not deemed essential that all the medical schools of the continent should adopt such a course. There might be other medical schools having a similar environment, however, which might obtain the best results educationally by establishing a similar course.

Two main reasons led McGill University, four years ago, to change from the four to the five-year system. The first was to make sure that the students possessed a sound training in the preliminary sciences, biology, chemistry, physics, etc. The second reason was to insure thorough hospital training, and to afford adequate time for clinical work. Since our students came from a wide area in a young country, a certain number possessed no opportunity for instruction in the elementary sciences, and as a matter of economy of effort it was better that McGill should have the supervision of the courses in those sciences, rather than that the students should attend courses not specially devised for medical students. Educationally, the graded course bearing a definite relationship to future teaching is of foremost value. It might be well if the courses in physics, chemistry and biology were not delivered in the medical college itself, but in the laboratories of another faculty; it might also be well if the actual teachers were not medical men. Nevertheless, the teaching of these elementary branches should be given with special reference to the future needs of the student. As a matter of fact it was found possible to give the ordinary medical student as sound and generally useful a course in these preliminary sciences in one year as ordinarily consumed two years in the arts or academic course.

This is not the optimum; the man who desires to do so might well take a complete academic course or to specialize in certain scientific branches. It is necessary, however, to fix a minimum for the ordinary students, the men who at most look forward to ordinary practice, and who constitute the bulk of students in the medical school.

Briefly, the objects in the development of the curriculum at McGill have been: (1) to give a sound course in the preliminary sciences subjects; (2) to make the courses from the third to the fifth year as practical as possible; (3) to observe a natural sequence in the various courses; and (4) to give the maximum of hospital instruction with the freest employment of the wards and of bedside instruction.

### Equipment and Instruction of the Laboratory Years

DR. E. P. LYON, Professor of Physiology, St. Louis University School of Medicine: The chief function of a medical school is to make good physicians. The good doctor must be an accurate observer; for training observation anatomy and its related sciences are valuable. He must be a skilful experimenter; chemistry, bacteriology, physiology and pharmacology are preeminently experimental sciences, and each has its peculiar methods and value for medical training. The good physician must further be a man who is able to interpret the facts gained by observation and experiment; all the sciences are valuable as training for this power, but pathology is especially useful. The sciences fundamental to medicine are, therefore, justifiable in the medical curriculum on account of their disciplinary value.

The scientific instruction must be in the hands of professional scientists, not practitioners of medicine. These men must be provided with proper laboratories for teaching and research, with equipment, materials, libraries and assistance. Anything less than this provision is to disregard the model which the school is trying to realize, namely, the good physician.

The laboratory work should be conducted by the professors and not by cheap assistants. If the right men are chosen for heads of departments, the choice of specific equipment may be left to them. The state boards would do well to insist that the colleges have trained instructors, rather than publish lists of required equipment which may or may not be used.

The powers of good observation, experimentation and judgment are necessary for the technical work of the physician. But on account of his intimate relation to the people he needs many other traits which may be summed up as character. The medical school can do little by precept but much by example. The medical teachers should be men of character and culture.

### Instruction and Equipment of the Clinical Years

DR. GEORGE BLUMER, Dean of the Medical Faculty, Yale University: The problem of teaching in clinical years is a threefold one. The student should receive a training in the fundamental principles of medicine, surgery and obstetrics. He should also receive a practical training in physical and clinical diagnosis and surgical technic and should have an opportunity to apply the principles and technic by actual contact with patients. The proportion of clinical and didactic teaching as methods of imparting fundamental training should be determined by local conditions. There is an unfortunate tendency to overemphasize didactic teaching. On the contrary technical training in clinical and physical diagnosis should be by labo-

ratory methods. There is a marked advantage in the use of living animals in teaching surgical technic. The contact of students with individual patients is the keynote of the fourth year of instruction. A system of clinical clerks is desirable. In regard to the equipment necessary there should be laboratories with sufficient microscopic and other necessary apparatus for each student; a dispensary especially equipped for teaching with abundant material and a hospital especially equipped for teaching under competent medical school control. The greatest needs at present are proper endowment and properly paid and well-trained men in the clinical years. There is also a lack of absolute control of hospitals by medical schools.

DISCUSSION

MR. ABRAHAM FLEXNER, New York City: It is absolutely necessary that the function of passing on preliminary credentials or holding preliminary examinations should be taken away from the medical schools, and in the case of independent medical schools and of medical departments which nominally or actually belong to universities, the entire business of passing on credentials should be handed over to the academic department. Even this latter step will not insure us any more conscientious or intelligent passing on credentials than the medical department is in the habit of giving, and the more one becomes familiar with the details of administration of American colleges and universities, the more one is inclined to think that the medical schools are not in that matter the only offenders. There are very few colleges or universities that handle the subject of admitting students either intelligently or conscientiously. The recent reports of the president of the Carnegie Foundation show that the admission requirements of American colleges are, without exception, largely nominal; that is to say, the conditions are such that students are so freely admitted and the conditions under which they are admitted are such that it is difficult for any institution with which I am acquainted to make clear the precise basis on which entrance conditions are enforced. The remedy and improvement for this condition are more likely to come if we can secure concentrated criticism and publicity regarding entrance records of the American colleges than if the responsibility is distributed among a great many registration offices or township offices largely without any of the necessary facilities for dealing with records intelligently.

DR. CHARLES W. DABNEY, President of the University of Cincinnati: The authors of these papers have thrown light on the difficult problem of medical education from different points of view. One of the most gratifying observations is that wherever we find advanced entrance standards, the colleges having such high standards have prospered and are prospering. That has been true everywhere, and I am delighted with the progress being made in the advancement of medical education. A thought that has come to me in my own experience in the last few years is that we are in danger of making our methods in medical colleges too mechanical, too fixed, and I hope that some one will tell us how we are going to overcome that. I would like to enter a protest against too mechanical requirements. In our institution we are conscientious in the enforcement of entrance requirements. A general thought I would advance is this: in medical schools, as in engineering schools and colleges of liberal arts, we are introducing too many mechanical methods. We want educated men. We want to produce men who can observe and think and reason. Four years is a desperately short time to give a man an education. He can be given a start, and can probably be trained to observe and to think in that short period of time.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: We must not have cast-iron rules in the teaching of medicine; we must have diversity. We must not expect any two medical schools to teach medicine in exactly the same way. The individual teacher must always be given a certain amount of freedom in the management of his department. I do not expect to dictate to the professor on physiology how he shall teach physiology. If he is a capable man, that must be left to him. I recognize that the fifth-year medical course, adopted in the Canadian medical schools, as referred to by Professor Adami, is applicable to, and probably must be adopted by, certain schools in the United States, but I do not believe that it is comparable with the six years combined course. I do not believe it is so good.

DR. HENRY A. CHRISTIAN, Boston: Of the various methods of increasing the curriculum, three general suggestions have been made. One concerns itself with the increasing the required hours within the assigned time. More has been said about that in the past year than this year. The result of that suggestion has been that the curriculum has been crowded. The limit has been reached already. At present, our curriculum needs energetic surgical treatment. In other words, we need to reduce materially the number of subjects taught, and the number of hours of required work. So far as the curriculum is concerned, leaving it as a four-year curriculum, the war cry now should be simplification. A second method suggested of increasing the curriculum has been along the lines of increasing the preliminary requirements of students before they enter a medical school. We have gradually increased the standard of medical education by increasing the preliminary preparation of the medical student. The method of pediatrics can well be applied to that phase of the subject; we should continue to feed the preliminary requirements until students gradually grow to a larger size. It may be that breast milk, or modified milk, will be best for the infant, but the infant at the present time to my mind needs a little more food and a little more growth. A third method suggested of improving the curriculum has been by the addition of a fifth year. Dr. Wesbrook, of the University of Minnesota, proposed that the fifth year shall be a hospital year. In discussing that paper I offered certain objections, not to the student having as much clinical experience as he could possibly get, but to incorporating a fifth year in the medical curriculum and making the medical school responsible for that hospital year.

## SYMPOSIUM ON STATE LICENSE

### Valuation of Credentials

DR. FRANK B. HILLER, Secretary Missouri State Board of Health: There rests on a medical licensing board a responsibility and duty threefold in character: (1) that highest and greatest duty of safeguarding the public against the unworthy acts of the unqualified who desire to engage in the practice of medicine; (2) the duty of demanding of the institutions teaching medicine and surgery, that these schools and colleges shall so measure up to the standard of equipment and teaching capacity as to permit none to leave their halls with the degree of M.D. except those who are well-rounded and qualified morally and professionally to take their places in the ranks of a profession whose standards and knowledge are advancing with remarkable rapidity of force; (3) that of dealing justly and adequately with the applicant as he appears before such a board, an aspirant to have conferred on him the legal right to engage in the practice of the profession he has chosen. The standards demanded by the board must and necessarily do form the basis from which the valuation is computed, and the quality and uniformity of requirements constitute the rock on which reciprocity suffers injury, and in many instances wreckage. In other words, uniformity of medical requirements and standards exacted by all examining boards in the country is the ideal for which we are working. The agitation by the American Medical Association has brought about many reform methods in the examining boards. The work of the Association necessarily has been along the lines of agitation and education, the Association not having within itself the legal power to enforce the requirements it has advocated. The state examining boards, however, in practically all states, are supported by statutory law enabling them to enforce many or all of the advanced requirements that have been set forth by the Council on Medical Education, and all boards should vigorously assume the responsibility and boldly and justly administer the duties with which they are charged.

### Interstate Reciprocity

DR. W. T. GOTT, Secretary Indiana State Board of Medical Registration and Examinations: Under our form of government the physician's license makes him a professional prisoner in the state which granted him his license. If the exigencies

of climate, fortune, or business make it necessary for him to change his location to some other state it is necessary that his qualifications be again tested, and he must undergo another examination. Is this right? If the United States is one country and one people, is it fair or reasonable to require a citizen to submit to forty-eight examination tests in order to demonstrate his fitness to practice medicine in this country? Under our form of government by federated states, however, that is necessary unless some plan of interstate agreement can be secured that will in a measure nationalize the licensing of physicians. That plan is by interstate reciprocity by which due weight is given by one state to credentials obtained from a sister state whose requirements and standards are substantially equivalent to those of the state of proposed residence.

Some men hold that such reciprocity agreements cannot be fairly entered into until all states secure uniform practice acts and uniform requirements; and without question such uniform legislation and requirements would be a great advantage to society, to the individual and to the public. However, if no attempt has been made to establish reciprocity relations between states until all states have adopted by legislative enactment uniform medical practice acts, the millennium would have been reached before a single license would have been issued through reciprocity.

In recognition of a strong demand in the profession, some states entered into reciprocal agreements as early as 1901, and at present the majority of states have such agreements with certain other states. Reciprocity in medical licensure, if conscientiously administered, has a favorable influence on educational standards. State practice acts are not apt to be weakened or the standards lowered since that would endanger the reciprocal relations with other states. Medical colleges also are urged to keep their standards high since their students are thereby made eligible to registration through reciprocity in a larger number of states.

So long as cults in the healing art exist, it is a serious mistake, in my opinion, to provide for each a separate board of medical examiners. The administration of such boards is consciously or unconsciously influenced, biased, and unnecessary temptation is put in the hands of such boards to be lax in passing on the credentials of applicants of their own system of practice. The credentials issued by a board composed entirely of representatives of one system of practice should not be acceptable for a certificate through reciprocity and such a ruling would have a salutary effect in upholding the standard of educational qualifications throughout the country.

### Examinations

DR. WILLIAM S. FULLERTON, St. Paul: The primary object of a state board examination is not to protect the physician against the unlicensed man, but the one and only object for the existence of the state board is to protect the public against the incompetent practitioner of medicine, and on that ground, and that alone, state boards rest. So long as the appointment of a state medical examining board is a political favor for party allegiance, irrespective of selecting the best men for the position, just so long will the public fail in being protected to the degree to which they are entitled. Men appointed on boards of examiners should not be behind those who are teaching the subjects in colleges, and they should not be subject to removal at the end of a short term. They should be chosen on the recommendation of the medical profession to the appointive power. These men should have facilities, both financial and otherwise, for carrying on the examinations.

### Discussion on State License

DR. HERBERT HARLAN, Maryland: Are examinations as now conducted the best method of testing a candidate's fitness to practice medicine? I should say, unqualifiedly, no; they are not. I believe that a practical examination is feasible, but not on every subject in every department; but I believe that it can and will be slowly introduced. I recognize that there are many difficulties in the way. The Maryland law says that the examination shall be written, but when we succeed in having the law amended, as we hope to do, practical examinations will be provided for.

DR. G. B. YOUNG, United States Public Health and Marine-Hospital Service, Chicago: My experience on an examining board has led me to arrive at the conclusion that a high school certificate is very indefinite as far as giving a reliable test of the candidate's educational fitness to study or to practice medicine is concerned. What we want in education preliminary to study of medicine, as I understand it, is not simply the acquisition of certain knowledge which makes the acquisition of subsequent medical knowledge easier, but such a training of the student's mind will produce a candidate who is intellectually fit to master the problems which are presented in acquiring a medical education, and has ability to apply that knowledge to practice. Is it not worth while for the organized boards to consider the propriety of including in their examination some test or means of ascertaining the definite value to be assigned to the certificates which are presented?

DR. CHARLES H. COOK, Natick, Mass.: Boards of registration in medicine are to protect the public or the citizens of the commonwealth, and the members are state officials, rather than physicians, appointed to those positions, not for the benefit of physicians primarily, but to protect the public. It is a question whether the power of officials of one state can be delegated to the officials in another state. So far as I know, this point has never been carried to the courts. If it were, I would be interested to know what the decision would be.

MR. ABRAHAM FLEXNER, New York City: None of the European countries I have visited—France, Germany, Austria or England—still makes exclusive use of the written examination. Although they all to some extent employ a written examination, the emphasis falls strongly on the practical features. One hears in America many different objections to the introduction of the practical examination. In some instances the laws seem hostile. Whether the law which prescribes a written examination could not really be circumvented, so that a practical examination, so far as the answers go are concerned, can take more or less a written form, I do not know. I should think it not impossible that a little ingenuity expended on that point might bring forth some interesting results and avoid the necessity of recasting the state law. It is alleged, also, that the numbers to be examined in this country are fatal to the introduction of the practical examination. I believe that the Minnesota State Board, for example, is not now embarrassed by the question of numbers. I suspect that any state board now undertaking to examine its candidates practically will find that the embarrassment due to the popularity of the examination will prove decreasingly important. As a matter of fact, if the practical examination were introduced, I believe it would be found that the question of numbers would cut no figure whatsoever. The most efficient practical examination which it was my good fortune to witness was also the largest from the standpoint of numbers, this examination having been held by the Conjoint Board, in London, England.

DR. GEORGE H. MATSON, Columbus, O.: The Ohio State Board has undertaken practical examinations in physical diagnosis. We have now finished three examinations of this kind. The applicants who have appeared before us have been called on to test their ability on patients who were suffering with various cardiac and pulmonary diseases, with enlarged livers and spleens, and some of them with incipient nervous affections, tabes particularly, and one or two patients with hemiplegia. We secured these patients from the county infirmaries and from the dispensaries, and the first exhibition of this practical examination was remarkable. Formerly, we had at our June examination from 240 to 250 applicants, but since we have established practical examinations we are having from 125 to 140.

Universal reciprocity can never obtain for three reasons: first, because universal uniformity can never obtain in medical colleges. Second, universal laws can never obtain in a progressive body of states, and, third, we can never have uniformity in the personnel of medical boards, so that when we speak of having universal reciprocity we can only look in the future to the minimum medical requirement and never to a maximum. Practical examinations are a reality, and not a theory.

*Evening Session*

### Standards and Authority

PROF. GEORGE EDGAR VINCENT, President-Elect of the University of Minnesota: Physicians are rightly regarded as social servants; their skill and fidelity are obviously vital to the community. Yet this view is far from universal. Individuals by tens and thousands see in a medical career chiefly a means of livelihood. They resent the rising standards of medical education as obstacles to the early enjoyment of an income. Many of these individualists resort to short-cut schools and to least resistant states. But these outcasts are embittered by exclusion from prestige in practice. They swell the ranks of the quacks and unfurl the black flag of the medical privateer. The discredited schools and diploma mills also insist on the old dogmas of liberty and *laissez faire*, and make appeals to the traditions of the fathers, the spirit of '76 and other quaintly irrelevant ideas and shibboleths. To the influences which resist the standardization of medical education may be added makers of proprietary remedies whose success varies directly with the credulity of the public. But in spite of impatient selfishness, mental inertia, sincere fanaticism, unscrupulous greed, the standardizing of medical education goes steadily if too slowly on. The association under whose auspices we meet affords an example of that extra-legal centralized organization which creates national institutions amid what often seems a chaos of state particularism. Slowly but inevitably we are selecting a medical élite, experts to whom we entrust a constantly growing body of scientific knowledge and an elaborated technic. If the community for its own protection insists on testing and training its social functionaries, it must provide a way of finding and encouraging unusual ability however this may be circumstanced. A system of scholarships awarded by competent authority after adequate tests and continued only so long as the scholar's work justifies the support would seem to be a socially necessary consequence of the increased demand of medical education. Medical associations, individuals, institutions and the state should all have a share in creating such a system.

Scientific men should face facts as they are. The public mind is like a force of Nature. It is childish to rail at it, to denounce it, to expect it to be docile about technical matters. Physicians should diagnose the condition of the public mind calmly and in a scientific spirit. They should try to trace the play of cause and effect, and then take measures to bring desired results to pass. In this they have the right to ask the cooperation of all thinking men and women. The public is controlled by leaders. These leaders must be informed and intelligent. Colleges and universities have a responsibility in training these leaders. Every institution of higher education should be a model of public sanitation and hygiene. Every graduate should be well-grounded in the principles of personal and community health. The public schools could do much more than they do at present to train children in hygienic habits and in intelligent deference to sanitary regulations. Popular literature, lectures, parent's meetings, visiting nurse associations, organizations like the antituberculosis societies, city and state health departments and boards—agencies of many kinds are all engaged in the work of popular health education. Would that Mr. Carnegie's next $10,000,000 gift might be devoted to publishing in newspapers authoritative advertising bulletins on hygiene and sanitation. Many an editor would be glad to be freed from irksome slavery to the "patent-medicine" men.

Great responsibility for the education of the public must fall on members of the medical profession. Physicians and professors of medicine must devote some time to public addresses, to cooperation with public school authorities, to hearty support of local health authorities when these are reasonably competent, and to civic movements designed to improve a defective public health service.

Movements for legislation affecting medical education, admission to the practice of the profession, the organization of health boards, the enactment of sanitary regulations, etc., should all be regarded as a part of the process by which the expert few and the many are to be brought into relations of mutual respect and good will.

### The State and Medical Education

PROF. WILLIAM L. BRYAN, President of Indiana University: The first appropriation of public funds for medical education in Indiana was made within the past thirty days. The schools of medicine have come together. Aside from the two-year school at Valparaiso, for which I wish to say a good word in passing, we have now in Indiana one school of medicine, and that is a department of the state university. The sects have come together on the terms of the law governing the medical schools. The language of the statute is as follows:

> That there shall be no discrimnation for or against any school or system of medicine in the university, and that all or each of the schools or systems of medicine now recognized by the state shall have adequate opportunity to teach the practice of medicine in the university according to the principles advocated by them respectively, and that it shall be the duty of the trustees of Indiana University to provide such instruction in as thorough a manner as the means at their disposal will permit, and as nearly as possible to provide the same quality of instruction whenever a reasonable demand shall be made for the same.

Everybody agreed to that. The university holds the doors of the school hospitably open to every variety of medical theory on the conditions set forth in the law. Up to this time no particular school of medicine has taken advantage of this law.

### The Responsibility of State Universities in Public Health Matters

PROF. GEORGE E. MACLEAN, President, State University of Iowa: A college of medicine first should turn out well-prepared practitioners, not simply to cure disease, but educated as sanitarians, and conscious that the medicine of to-day must lend itself to the science of preservation and health and prevention of disease. The practitioner must be more than a mere medical man. He must be a citizen, and with large functions for society. He, therefore, will study in the university psychology, sociology, philanthropy, social pathology. Experience shows that he ought to know something of political and economic science, for more physicians break into the legislature than into the penitentiary. The state board of health should find the highest expert service, free from all political contamination, in the men of laboratories of the State University. The university students, and especially the medical students, should have the benefit of these health experiment stations, for enlarging the scope of their undergraduate education, and in order to be trained for sympathetic cooperation with the health authorities and the university as they settle in their professions throughout the state.

The Board of Control in Iowa is charged with inspection of poor-houses, and even of private eleemosynary institutions, and the state board of health with inspection of hospitals, maternity and children's homes. This accepted responsibility by the state opens the door when correlation of all the state bodies is effected, for the university to aid by its experts, and to make all these institutions in some sense adjuncts to the university laboratories. A federation of the hospitals, public and private, with the university, which might furnish interns, would not only give a proper extension of the course in medicine, but would disseminate missionaries of public health. Most naturally, the university becomes as much of a coordinating point in sanitary matters as it is in educational affairs.

Impressed by our opportunities and the vision of the future possibilities of public health, we put up the prayer to you medical men: "Come over into Macedonia and help us."

The original Macedonian cry was a missionary call and a crisis in civilization when the Occident turned to the Orient for the life of Christianity. At this moment, according to Edward A. Woods, America is awakening to the realization that the chief wealth of her country is not in its material resources, but in the lives and health of its people. The lives of a nation, according to the insurance men, are worth three times its property, or over three and one-half billions of dollars. In the light of the inestimable worth of life in a nation with a Christian faith, how great our responsibility in this tremendous public health movement now just starting to conserve health and even lengthen life!

XUM

## JOINT CONFERENCE ON MEDICAL PRACTICE ACTS

### Medical Practice Acts and the Public

HON. EDWARD J. BRUNDAGE, Corporation Counsel, City of Chicago: Notwithstanding the vastly greater importance of the public health, all requirements for the practice of medicine have been left by the people to the physicians themselves. While watchful over the possession of things material, the people have been careless in their dealings with the most precious of all assets—good health. If unfit men are practicing medicine in this day, the fault is not with the profession, but with the public that permits quack-producing conditions to exist. There has been a great advance in the last decade in the standard for the practicing of medicine, and physicians are entitled to the credit for raising the standard. The public, through ignorance or lack of understanding, has contributed little toward helping physicians in this work. The state of the public health is dependent on the progressiveness of the medical profession, but the profession is not responsible if the public is lax. Some of the people have become aware of this situation, but the vast majority are still unable to discriminate between physicians properly trained and those untrained. The title of doctor is the most abused of all. In its common use it signifies nothing as a title of learning or distinction. Doctors are of as many varieties as the product of a pickle factory. The thing essential for the protection of the public is some way to discriminate between men bearing the title. In my judgment a man of training, high education and character, ought to possess a title distinguishing him from the man who treats the diseases of animals or practices chiropody. But one course appears to the layman to protect the public against such incompetency, and that is to raise the standard of admission to medical colleges by requiring a preliminary degree in arts or sciences as a prerequisite. Even then, after graduation, no license should be granted to practice medicine or surgery until actual experience in a hospital or similar work has been obtained, for a sufficient period to demonstrate ability.

The best evidence that the public is becoming aware of the importance of the physician to the welfare of the community is the growing demand for the creation of a national department of health. Problems in matters of health are constantly being created with the rapid growth of urban life. Medical science is taxed to its greatest capacity to obviate the danger caused by the massing of people in restricted areas. No branch of science has progressed so rapidly, no profession contains more thinkers, willing to devote their lives to the betterment of mankind. The public is learning more and more to depend on physicians, and I am sure the progressive men of the medical profession will find increasing support from the public at large.

### Attitude of the Judiciary in Enforcement of Medical Practice Acts

JUDGE JESSE A. BALDWIN, Appellate Court, Chicago: The medical practice acts in the various states have been vigorously contested on the ground of alleged unconstitutionality. A proper consideration of the basis on which such legislation rests readily discovers satisfactory reasons why the courts, in more than thirty of the states where the legislation was directly attacked, have distinctly sustained the constitutionality of such legislation. With the medical practice acts varying, as they do, in the several states, and with supreme courts, and in many instances appellate courts, in each of the states, it is not surprising that there should be a lack of absolute uniformity either in the legislation or in the decisions of the courts under it. It is difficult to draw any conclusion as to the attitude of the judiciary in the enforcement of medical practice acts from the decisions, and yet examination makes it safe to say that so far as they are criminal statutes, enforcible by fine and imprisonment, the courts are required by the accepted canons of construction to construe them strictly, but examination also shows that both the judiciary and the medical fraternity are applying a progressive science.

While possibly the courts are even more conservative, and more subservient to precedent than the medical profession, no one, after a careful review of the situation, can deny that even the courts are affected by new and progressive views and constructions which are, by changed conditions and necessities, made applicable to the case under consideration. The statutory regulations in regard to the practice acts must be adopted in good faith, must be reasonable, must operate equally on all alike, must prescribe qualifications reasonably possible of attainment by study and character, and fairly intended to protect the public against fraud and imposition. If these requirements are met, the acts will be sustained by the courts, even though the conditions are rigorous, and though sometimes the provisions are not such as the court would itself deem the wisest.

"Let me urge you to move forward unitedly, and secure in the interests of suffering humanity the strongest and best legislation possible; continue in your efforts to compel higher standards in your profession, subordinating selfish interests to the public good, and be assured that the attitude of the judiciary in the enforcement of legislation enacted under such conditions and to embody such purposes will be cordially sympathetic."

### What Should be the Attitude of the State Toward the Practice of Medicine

DR. M. L. HARRIS, Chicago: The only justifiable pretext for a medical practice act is that it shall protect the people against ignorance and incompetence on the part of those who treat the sick. It was thought that this might be accomplished by prohibiting anyone from practicing medicine who had not been licensed so to do, and in not licensing anyone who had not proved himself qualified. A law carefully drawn up on these lines and strictly enforced would undoubtedly restrict the practice of medicine to those qualified. But none of the acts so far passed adhere strictly to this plan nor are any of those which closely approximate it strictly enforced. The state should not attempt to restrict the practice of medicine to a particular class, but should designate those who are competent so that the public may be able to distinguish between the competent and incompetent. Joined to this duty of guidance is the equally important duty of protection. None but qualified physicians should be eligible to any medical position in the public health service, or in any public or charitable institution under the control of the state or any of its municipalities. As all contagious diseases are a menace to the public, and as most of them should be reported to the proper health officers, no unqualified person should be permitted to treat or to assume the medical care of people suffering from these diseases. All parents, guardians and institutions having minors under their care or control should be obliged to furnish them with qualified medical attention in case they are sick or injured and require it. No death certificate should be accepted by the authorities unless signed by a qualified physician. In this manner the state will be able to carry out its duty of protection.

The restrictive or licensing plan of regulating the practice of medicine is fundamentally wrong in principle in that it makes the state dictatorial in a matter of personal rights which is best left to the thinking individual.

### Regulation of the Practice of Medicine for the Public Good

MR. CHARLES R. HENDERSON, Professor of Sociology, University of Chicago: Studies and experience disclose the necessity of training in purely scientific investigation. Every advance movement in public hygiene must start from a new laboratory revelation, as the control of diphtheria, typhoid, tuberculosis, summer diseases of infants. Not all, not even a majority of physicians, can be pioneers, but every one should have the fundamental discipline which will make him intelligent and sympathetic toward the investigators. The educated physician is needed to save the nation from quackery which fattens on popular ignorance and inherited superstition. The "patent-medicine" vendors and the faith-healers thrive because science is not a common heritage. The alcoholic superstition owes its survival partly to the want of unanimity among doctors. Free competition in each calling has limits of usefulness. A physician's "trust" is desirable on certain conditions: it must admit all who are competent; it must use fair tests to exclude all others; its charges must not be prohibitive to the poor. Some affect to fear that examinations will snuff out some spark of genius; but the criticism of scholars is a

guarantee that no valuable idea will be lost. Indeed, the higher the standard of state examination, the more certain it becomes that every possible hypothesis will be adequately tested by men who try their experiments cautiously on animals before they take too great risks with human patients.

### The Administration of Medical Practice Laws

DR. A. B. BROWN, Secretary Louisiana State Board of Medical Examiners: In order for the Board of Medical Examiners to administer usefully the functions that should belong to such a board, it is essential that there should be legislative authority broad enough to permit the board to cover the entire field of regulation of practitioners of medicine. Such a statute must not be too strict in limiting the power of such board. It is humanly impossible for the author of a statute of this nature to foresee all the possible changes that may occur in connection with the development of medical science. The definition of the practice of medicine must be comprehensive. It must enable the board to reach every person who professes to cure disease, or to remedy defects in human beings, or to relieve physical pain or to rectify mental aberration. As a prerequisite to the right to take examinations, the statute should require the presentation to the board of examiners of a diploma, or equivalent certificate showing that the candidate had completed, to the satisfaction of the medical college issuing it, his course in said college; said diploma or equivalent certificate must be issued by a college the requirements of which are satisfactory to the board. The standing of each college must be left to the judgment of the board of examiners. There can be no other judge of the collegiate standing than the board. The legal procedure by which the law is to be enforced should be such as to render the board independent of any local influences that might attempt to obstruct the provisions of the board.

### Financing of State Board Work

DR. HERBERT HARLAN, President, Maryland State Board of Medical Examiners, Baltimore: The objection to the financing of state boards by the state, is the difficulty in arranging for a liberal expense account under the control of the board. For example, would the average controller pass the voucher for *per diem* and traveling expenses of a representative of a board to attend such a meeting as this one? Again, the state law officers would surely be expected to act as counsel in defending suits and pushing prosecutions. Many state's attorneys have shown themselves to be, if not hostile, at least very indifferent in regard to enforcing medical practice acts. In Maryland we had great difficulty on this point even though we have our own attorney to aid us. It is my opinion that the best results would come from leaving the distribution of the funds entirely with the boards. In certain states, where the amount is large, larger than is needed for all expenses and for reasonable compensation of the secretary and members, as the money all comes from the physicians, there could be no serious objection to having the surplus turned over to the uses of the state medical society.

## CONFERENCE OF THE NATIONAL LEGISLATIVE COUNCIL

The chairman, Dr. H. B. Favill, appointed the following committee on resolutions: Dr. E. J. McKnight, chairman, Hartford, Conn.; Dr. A. B. Brown, New Orleans; Dr. R. M. Funkhauser, St. Louis; Dr. Charles F. Whithington, Boston; and Dr. Frederick R. Green, Chicago, secretary of the Council on Health and Public Instruction, ex officio.

DR. F. R. GREEN, Chicago, presented his report, after which there was a roll-call by states and presentation of reports from state representatives. There were also reports from interim committees, Carroll memorial, medical expert testimony and optometry.

### Report of Committee on Optometry

DR. JOHN C. BOSSIDY, Chairman, Boston: Twenty-four states had legalized optometry by the end of 1909; or, as opticians claim, had recognized it as a profession. In 1910 physicians vigorously fought the further extension of this pernicious measure, and the opticians were beaten in every state where they made their effort. The committee finds apathy on this subject in the medical ranks. The fight in the past has been by a few medical men, and this state of affairs should be remedied. Columbia University, of New York, was persuaded during the last year to establish a course in optometry. The university prescribed a minimum of twelve students before starting the course. The result of the establishment of this course has been that Columbia University has been quoted in many states as the chief argument for the establishment of further optometry laws; and yet, with all this effort, there were on the first of February of this year, but eleven students taking this course. The committee is impressed with the great harm that can be done to the public through unwise legislation, and its members hope that every medical man present at this conference will see this subject in all its present and future dangers.

### Educational Work in Vital Statistics

DR. CRESSY L. WILBUR, Chief Statistician, Bureau of the Federal Census, Washington, D. C.: One of the chief assets of the Bureau of the Census in its work of endeavoring to promote the better registration of vital statistics in the United States is the continued earnest cooperation of the organized medical profession. Nothing could be done if the physicians of the United States were opposed to the enactment and enforcement of effective registration laws, and practically all that has been done to secure such legislation has been through the active efforts of the medical profession. The registration service in the United States is too often treated as merely clerical or the mechanical part of public health organization and entrusted to utterly incompetent hands. The result may be exceedingly disastrous when the health officer undertakes to test his work by the use of vital statistics, and in general it may be said that all sanitary workers in this country are hampered by the lack of uniformity and thoroughness in statistical publications; hence the desirability of building up, with its roots in the broad scheme of medical education, a body of trained practical workers in vital statistics and appreciative students and users of their results. This object is nearer to accomplishment than ever before, but it will take many years of earnest cooperative effort on the part of these councils of education and legislation, with the full support of the entire profession before we shall bring this neglected subject up to the full measure of its usefulness.

### REPORT OF COMMITTEE ON RESOLUTIONS

The Committee on Resolutions presented the following report, which was adopted:

WHEREAS, The Committee on Carroll Memorial has completed its work in a highly satisfactory manner to all concerned; therefore, be it

*Resolved*, That the final report of the committee be accepted and the committee discharged; and be it further

*Resolved*, That the committee recommends that the cordial thanks of the conference be extended to Major Ireland and his committee for the efficient manner in which they have accomplished their work.

*Resolved*, That the thanks of the conference be extended to Drs. Halsey, Gay and Bristow for their individual efforts in the consideration of medical expert testimony, and that this committee be discharged; and, be it further

*Resolved*, That the Council on Health and Public Instruction be requested to establish a standing committee to give this matter thorough consideration and, if possible, to confer with a committee of the American Bar Association.

*Resolved*, That the Seventh Annual Conference of the American Medical Association on Medical Education and Medical Legislation deplores the action of Columbia University, of New York, in establishing a course of study in optometry, for the reason that opticians have never succeeded in founding an official school of optics or optometry, but have relied on the recognition or legalization of the word optometry to make them a profession, and for the further reason that the existence of such a course at Columbia University has this year been used in many states as the chief argument for the further enactment of optometry laws, which are designed to permit opticians to practice medicine in a limited degree; and, be it further

*Resolved*, That a copy of these resolutions be transmitted by the secretary of the conference to the president of Columbia University of New York.

*Resolved*, That this conference reaffirms its endorsement of the model bill on vital statistics and expresses its appreciation of the interest shown by Hon. E. D. Durand, director of the census, and by Dr. Cressy L. Wilbur, chief of the division of vital statistics, in promoting the adoption of uniform vital statistic laws in the various states, and that the secretary be instructed to furnish a copy of these resolutions to the above-mentioned gentlemen.

XUM

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

## THE SECRET COMMISSION EVIL

The following editorial appeared in *Colorado Medicine*, February, 1911:

"EVERY MAN WHO DOES GOOD WORK SHOULD BE PAID FOR WHAT HE DOES, AND NO MAN SHOULD BE PAID FOR WHAT HE DOES NOT DO."

1. A surgeon who lets it be understood that he will give to every doctor sending him a case, a certain proportion of the fee, whether he earns it or not—say half, as is frequently done—really makes every one who agrees to this his hired agent, just as much as if he sent him out to canvass the incoming railroad trains with the promise of a fat commission for every patient he might steer in.

These agents are sometimes beginners in practice or else more or less unsuccessful and unscrupulous practitioners. They soon discover that they can make more money and make it easier by furnishing cases on commission than they can through legitimate practice, and their hunt for subjects for operation becomes a frantic one. With a poorly paying practice on the one hand and a rich bait of 50 per cent. of the fee dangling within easy reach on the other, they soon begin to strain a point and urge operations where operations are unnecessary. It becomes easy to say: "If you are not operated on you will die." Under the circumstances excuses for this questionable conduct are easily found.

Now, the surgeon who employs these agents is a more or less unscrupulous man, who is wildly grasping for work and does not care how he gets it. He is not willing to earn it by proving to others that he can do things well, thus establishing a legitimate reputation—the recognized and approved method—but he is anxious to buy his work and let the proof of ability come afterward, if it ever does come.

It may be said that such a man may soon become an expert operator, owing to the amount of work which he will do. True: but an expert operator does not constitute a good surgeon—this requires, in addition, judgment, learning, conscience, and an undeviating purpose to do that which is best in every respect for the patient, irrespective of fees and operative statistics. In this sense, he who buys his cases can seldom become a good surgeon.

When an agent sends a case to such a commission-paying employer, the necessity for an operation has often been exaggerated so as to make sure of bagging the game. Hence, in order to protect the interests of his agent, as well as the interests of his pocket, the surgeon *must* operate; but it can readily be conceived that his already elastic conscience is usually equal to the emergency; and I venture to say that few such cases are ever turned down, even when an operation is not really called for.

2. Hence, the commission business leads to indiscriminate, reckless and useless operating; and in these days, when the tendency in this direction is already too great, owing to the comparative ease with which many operations can be done, this is unfortunate, to say the least.

3. Individual ability in different lines of work should be encouraged and not hampered. In every community there are surgeons who are noted for certain things—one is particularly skilful in hysterectomy, another in operating on the brain, a third in the surgery of the appendix, a fourth in stomach and gall-bladder work. The general practitioner is supposed to find out in the course of time who these men are, and his patients have a right to expect that he will use this knowledge for their benefit. But how can a fine, or even a coarse discrimination be exercised with 50 per cent. of the fee obscuring the vision, and with nothing to do but reach out and take it? The doctor's employer, the commission-paying surgeon, inevitably gets the case, whether he is the best man to handle it or not.

Suppose your wife were very sick and required the services of a surgeon, and you trusted your family physician to pick out the one best suited to operate on this particular case; and you found out afterward that the surgeon had really been selected not because of fitness, but because he paid your doctor half the fee for selecting him. How would you feel about this? Would you not feel that you had been buncoed? Would you not call it an unjustifiable traffic in human misfortune? Would you not feel like shooting your family physician, especially if disaster resulted to your wife?

4. Publicity is what is needed: If but two doctors resided in a small town and one was known to be a "commission-doctor," while the other carried on a legitimate business of his own, being in the employ of no one and choosing his surgeons according to their merits alone—if this state of affairs existed, other things being equal, how long would it take the populace to make a selection between these two men?

And this suggests the easiest, best and quickest manner of doing away with the commission evil—publicity. Such things flourish in darkness. Turn on the light and they run for cover. Is there any doubt that if the public knew a surgeon obtained his work by paying commissions rather than by proving his skill it would express its disapproval by avoiding him?

5. Every man should be paid for what he does, and no man should be paid for what he does not do:

Simply referring a case to a surgeon without further action should usually mean a consultation fee only, which the patient will generally pay without question. It is true, however, that in surgical cases the responsibility is often increased by advising operation; but if the case is one which should go to the surgeon, is not the responsibility even greater if he is not so advised? In fact, the responsibility cannot be escaped either way. It would be right, however, for medical men to demand a larger fee for the added responsibility and trouble accompanying the diagnosis of many surgical cases, the selection of a surgeon, and other matters incidental to the necessary arrangements for an operation. When this matter is presented in a proper light to the public it is always quick to see its justice.

When a case is sent to a surgeon, especially to a strange surgeon in a strange city, the patient often desires his physician to accompany him. Even when this is not actually necessary, it contributes a feeling of security and backing which would otherwise be absent. In addition, most individuals wish their physician to be present at an operation, and it gives them confidence to know that he is there and watching over their interests. They also want him to see them during their convalescence, to cheer them up and to make such suggestions as his knowledge of their peculiarities may prompt.

There can be no question that these attentions should be paid for according to their value; but this is not yet sufficiently recognized. Physicians too often give their time and skill and receive no pay in return. Undoubtedly, the proper method would be for the patient to meet these obligations directly. At present, however, he often does not see it in this light, and in order to educate the people up to this point (6) it is permissible for the surgeon and the physician to present a joint bill—for services rendered by Dr. A. and Dr. B. This can be itemized if desired, or at least it should be if the patient request it. Understand, what makes such a joint bill legitimate is that it is clearly indicated that it is for services rendered by both the attendants, and not by the surgeon alone. In this way it not only assists the physician in collecting his just dues, but also helps to educate the public to understand that the physician's time and services in connection with an operation are worth something—a point well worth driving home at every opportunity, because services for which nothing is charged are usually estimated as being worth nothing.

The other day a Denver surgeon remarked: "It is nobody's business what I do with a fee, as long as I do not overcharge—if I want to give half of it away, that is my affair, and does not concern the patient or anyone else." But it does concern some one else. It concerns the patient, the public and the whole medical profession.

If we wish to retain the confidence of the public, and our own honesty and self-esteem, no transaction should be entered into that we cannot openly lay before the patient and his friends. This is a precept which we cannot afford to neglect. The tendency is already too great to distrust the actions and motives of doctors, and we should do all in our power to combat it rather than to encourage it. We should in every way endeavor to convince people that we are honest men with right motives, who are trying, within our limitations, to cure the sick without taking undue advantage of them. This is really what separates us from the charlatan and the quack. It is the standard raised by our forefathers, and we should endeavor to maintain it.

7. When an agent receives part of a fee without earning it, somebody suffers—either the surgeon gets too little or the patient pays too much. In the former instance the rights and dignities of the profession are trampled on, and in the latter the individual is buncoed.

For the surgeon's agent to receive from the patient something for nothing without the patient's knowledge, is as culpable as if he engaged in a get-rich-quick scheme, or robbed a bank or held up a citizen on the highway. Because surgeons are popularly believed to make more money than the general practitioner, which in the long run is questionable, is no reason why

the latter should graft either on the surgeon or on the public. If there is a real grievance it should be rectified in some more legitimate manner, in accord with the high ideals and moral responsibilities which physicians are supposed to possess—for instance, by educating the public to understand that with the growth of surgery increased responsibilities and duties have been thrust on the general practitioner, which should receive increased remuneration.

It goes without saying that every surgeon will be glad to assist in such a campaign of education so far as lies within his power. For instance, a few words to the patient in explanation of the situation are usually sufficient to bring about a proper understanding of the value of the services rendered by the physician before the operation, during or after it; assuming, of course, that the physician is not a grafter and desirous of obtaining remuneration for something he does not do. It is usually easy enough to convince a patient that a good diagnosis, involving the responsibilities and trouble of an operation, is worth more than ordinary medical services, and should be paid for accordingly, but this can never be done by the medical man pretending to work for nothing and then getting half the fee from the surgeon.

8. Buying cases is worse in some ways than advertising in the daily press, because the public has no way of protecting itself against this form of graft. All members of the profession recognize that advertising in the newspapers or on bill-boards is a serious breach of ethics. This is one thing on which we fully agree and are extremely "touchy." The reason for this is not so much because it lowers our dignity and cheapens us, although this is of importance, but because advertising enables men to make false and wonderful claims to deceive the public, the extent of which is limited only by their ability to write and pay for advertisements. From time immemorial it has been recognized that the only decent and honorable course for the doctor to pursue is to let his work speak for itself, and not cry his accomplishments from the house-tops, this being left to the quacks and to the charlatans. If we acknowledge this to be true, how do we reconcile with it the actions of the commission-paying surgeon? Instead of letting his work speak for itself, he pays for his cases—he does not make his reputation, he buys it like any other charlatan. He introduces into the profession a form of advertising much more pernicious than that which employs the newspapers, because against its secret practice the public cannot defend itself. People may be too intelligent to be misled by the allurements of an ordinary advertisement; but when they are steered against a commission-paying surgeon by his paid agent they are helpless, because the game of graft and bunco is a hidden game and not an open one, like that of the ordinary quack.

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

### Eighth Month—Second Weekly Meeting

TUMORS OF THE UTERUS

FIBROMYOMATA: Histologic varieties, number, size, rate of growth. Clinical varieties; interstitial, subperitoneal, submucous and intraligamentous. Secondary changes: Atrophy, calcification, fatty degeneration, infection, edema, necrobiosis, cystic degeneration, malignancy.

DIAGNOSIS: History, symptoms, physical examination.

1. Interstitial, pelvic and abdominal in situation.
2. Subperitoneal, pelvic and abdominal in situation.
3. Submucous fibroma. Uterine polypi.
4. Intraligamentous, between folds of broad ligament, anterior and posterior tumors.

CHORIOEPITHELIOMA, DECIDUOMA MALIGNUM

ORIGIN: Fetal or maternal. Location. Microscopic diagnosis. Metastasis.

SYMPTOMS: History, hemorrhage, discharge, pain, anemia, cachexia, etc. Physical examination. Symptoms of metastasis. Differentiate from carcinoma and sarcoma, incomplete abortion, submucous fibroid.

CANCER OF UTERUS: (a) Of the body, (b) of the cervix. Diagnosis, history, symptoms, physical signs, microscopic examination.

SARCOMA OF THE UTERUS: 1. Fibrosarcoma, affecting primarily the parenchyma. 2. Diffuse sarcoma, affecting primarily the endometrium. Diagnosis of each type.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St., Portland.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

### Indiana January Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Jan. 10-12, 1911. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 16 passed and 1 failed. Seven reciprocal licenses have been granted since Jan. 1, 1911. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Howard University, Washington, D. C. | (1910) | 86.7 |
| Northwestern University Medical School | (1892) | 88.9 |
| College of Med. and Surg., Physio-Medical, Chicago. | (1911) | 85.6 |
| Chicago College of Medicine and Surgery | (1910) | 89.5 |
| Indiana University | (1910) | 83.9 |
| Hospital College of Medicine, Louisville | (1892) | 75.7 |
| University of Louisville | (1910) | 87, 92.1 |
| Southwestern Homeopathic College, Louisville | (1906) | 75.0 |
| University of Michigan, College of Med. and Surg. | (1910) | 85.3, 84.6 |
| Eclectic Medical Institute, Cincinnati | (1910) | 85.2 |
| Ohio-Miami Medical College | (1910) | 89.7 |
| University of Toronto, Canada | (1907) | 89.8 |
| University of Aberdeen, Scotland | (1889) | 90.4 |
| Regia University, Pavia, Italy | (1891) | 84.4 |

FAILED

| | | |
|---|---|---|
| Indiana University, School of Medicine | (1910) | 67.3 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Coll. of Phys. and Surg., Chicago (1905) (1908) | (1909) | Illinois |
| University of Maryland | (1898) | Maryland |
| University of Michigan, College of Med. and Surg. | (1909) | Michigan |
| Cleveland Homeopathic College | (1909) | Ohio |
| Western Reserve University, Cleveland | (1909) | Ohio |

### North Dakota January Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Jan. 3-5, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 8, of whom 7 passed and 1 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Chicago. | (1892) | 83 |
| University of Iowa, College of Medicine | (1910) | 84 |
| Keokuk Medical College, College of Phys. and Surg. | (1891) | 75 |
| Baltimore Medical College | (1910) | 84 |
| Johns Hopkins University | (1905) | 82 |
| Western Reserve University | (1908) | 85 |
| Jefferson Medical College | (1910) | 90 |

FAILED

| | | |
|---|---|---|
| Chicago Physio-Medical College* | (1896)† | |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| College of Physicians and Surgeons, Chicago. | (1905) | Minnesota |
| | (1909) | Illinois |
| Chicago College of Medicine and Surgery | (1908) | Illinois |
| University of Minnesota, Coll. of Med. | (1906) (1909) | Minnesota |
| Hamline University | (1906) | Minnesota |

* In 1899 this college became the College of Medicine and Surgery, Physio-Medical, Chicago.

† No percentage given.

## Book Notices

PRACTICAL BACTERIOLOGY, BLOOD WORK AND ANIMAL PARASITOLOGY. Including Bacteriologic Keys, Zoölogic Tables and Explanatory Clinical Notes. By E. R. Stitt, M.D., Surgeon, U. S. Navy. Second Edition. Cloth. Price, $1.50 net. Pp. 345, with 91 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

In the second edition of this book the original arrangement has been adhered to, but the matter has been thoroughly revised. Chapters on immunity, anaphylaxis and poisonous snakes have been added, and the matter on the important subject of animal parasites has been rewritten, as has also the section on the bacteriology and parasitology of the body fluids. Other additions are, an outline of methods for the chemical examination of urine and gastric contents, and for the determination of nitrogen elimination. The author has avoided theoretical consideration, and does not hesitate to say plainly what is and what is not important in laboratory diagnosis. This is an advantage, when spoken with the authority of knowledge and experience. The book is well illustrated. Methods and procedures are concisely yet clearly given. The usefulness of the index, however, and consequently of the book as a work of reference, is impaired by the fact that the parasites are indexed solely under the name which the author has adopted, even though that may be less familiar than another name. Thus, *Lamblia intestinalis*, *Acanthia lectularia* and *Necator americanus* are indexed under those names alone; one looks in vain for *Cercomonas*, *Cimex* and *Uncinaria*. Unfortunately, moreover, the index is not complete, even as to names used by the author.

THE HYGIENE OF INFANCY AND CHILDHOOD AND THE UNDERLYING FACTORS OF DISEASE. By A. Dingwall Fordyce, M.D., Extra Physician, Royal Hospital for Sick Children, Edinburgh. Cloth. Price, $2.50 net. Pp. 289. New York: William Wood & Co., 1910.

In this book the author has attempted to "correlate the primary scientific facts of medicine as they apply especially to pediatrics," in order to assist the pediatrist in keeping abreast of the scientific advances associated with his own clinical work. Food, heredity, environment, bacterial infections and the different age periods with their characteristics and susceptibilities to disease and their developmental peculiarities, are discussed.

FEVER-NURSING. Designed for the use of Professional and other Nurses, and especially as a Text-Book for Nurses in Training. By J. C. Wilson, M.D., Author of "A Treatise on the Continued Fevers." Cloth. Price, $1 net. Pp. 248. Philadelphia: J. B. Lippincott & Co., 1910.

The text of this book, which originally embodied the substance of Dr. Wilson's lectures before the nurses' class at the Philadelphia Hospital, has gone through revisions until this, the fifth edition, contains only the essentials of nursing in fevers according to present ideas. The demand for a new edition gives evidence that it is meeting its purpose.

THE PRESCRIBING OF SPECTACLES. By Archibald Stanley Percival, M.B., Senior Surgeon Northumberland and Durham Eye Infirmary. Cloth. Price, $2 net. Pp. 159, with 24 illustrations. New York: William Wood & Co., 1910.

The author presents the subject of refraction in a practical manner, enabling one to quickly grasp the essentials in determining the errors of refraction and of ocular muscle balance. The use of the various instruments of precision is well treated, and some space devoted to the various types of lenses. A large part of the book is given to the mathematical problems connected with this subject.

NOTES ON DENTAL METALLURGY. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow (Incorporated) Dental Hospital and School. Cloth. Price, $2 net. Pp. 213. New York: William Wood & Co., 1911.

This work is a most complete summary of dental metallurgy. It is written on a short, concise plan, and the subjects can be quickly and easily referred to by the student. Those making a specialty of this line of work should have this book within reach for reference.

STUDIES IN INVALID OCCUPATION. A Manual for Nurses and Attendants. By Susan E. Tracy. Cloth. Price, $1.50 net. Pp. 175, with illustrations. Boston: Whitcomb & Barrows, 1910.

Although this book is not directly medical, it is of interest to physicians, and to all who have to do with invalids. Practically every sort of work that may be employed to pass the tedious time of persons crippled or otherwise shut-in has been explained and illustrated here.

## Medicolegal

### Insufficient Evidence of Malpractice and Erroneous Rulings

The First Appellate Division of the Supreme Court of New York reverses, in Brown vs. Goffe (125 N. Y. S. 458), a judgment for malpractice, and orders a new trial. It deems it sufficient to say that the principal operation performed by the defendant involved the removal of certain of the plaintiff's organs which had become diseased. Later in the same day a condition arose which required a second minor operation, mainly for the purpose of drainage, and some time later a second incision was made for the same purpose. Still later, after the plaintiff had sufficiently regained her strength, a fourth operation was performed, consisting of opening one of the incisions already made and securing so far as possible some of the spots found to have been weakened by the infection found on the occasion of the first operation.

The burden of the complaint was that the defendant, while possessing the requisite skill and learning, did not use reasonable care in the exercise of his skill and the application of his knowledge. But there was no evidence in the case from any qualified witness to the effect that any one of the operations performed by the defendant was improper, or was carelessly, negligently, or unskilfully executed. Furthermore, the charge of negligence and carelessness in the aftercare of the patient rested entirely on the evidence of the plaintiff herself, a young woman about 25 years of age who had been employed as a waitress in a restaurant, contradicted in the main not only by the defendant, but also by his assistants and the house surgeons of the hospital. It was insisted throughout the trial and on the appeal that the defendant had compelled the plaintiff to lie for days at a time with unchanged bandages and dressings. This insistence had no better foundation than the plaintiff's inadmissible evidence that one of the hospital staff had told her that the defendant had given orders that the bandages should not be changed. No legal evidence of such an order was given. But counsel quoted a sentence from the defendant's evidence that "I never ordered the bandages removed," but carefully refrained from quoting the very next sentence, that "the bandages were taken off every day after they were soiled." It is well settled that the burden of establishing affirmatively either want of skill or negligence in the care and attention of a patient must be assumed by him.

A very important inquiry in a case like this is whether or not the defendant did that which his best judgment dictated. One of the obligations resting on a surgeon or physician is to use his best judgment in exercising his skill and applying his knowledge, and when his acts are challenged it must necessarily be open to him to show that they accorded with his judgment as to what should have been done. So the defendant was prevented from showing precisely that which it was incumbent on him to show, when this question was excluded: "Now, in performing this operation did it, in your judgment, become necessary to separate the tissues in either way from the sac in which the pus was found?"

The necessities of the case required that the defendant should leave, in a large measure, to the hospital staff the care of the patient after the operations, which it was shown was the usual and proper practice in hospital cases, and it was error not to allow him to answer the perfectly proper question as to what instructions he left with the hospital physicians or nurses as to care of the patient.

### Practice of Medicine by "Suggestive Therapeutics"

The Fourth Appellate Division of the Supreme Court of New York in People vs. Mulford (125 N. Y. S. 680) affirms a conviction of the defendant of practicing medicine without having a license and being registered as required by Chapter 344 of the Laws of New York of 1907, which declares that "A person practices medicine within the meaning of this act . . . who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

It appeared from the evidence, without contradiction, that the defendant had an office, where he received patients, and treated them for physical ailments, and received compensation therefor; that he gave no medicine, and prescribed none; that he performed no surgical operations, and used no surgical instruments; that his entire treatment consisted of the laying on of hands, and manipulation, breathing and rubbing his hands together; and that his treatment was beneficial to his patients. The sign in front of his office indicated that his treatment was known and designated as "suggestive therapeutics." On the evidence he was practicing medicine, the court holds, as defined by the above statute, and was guilty of a misdemeanor thereunder.

The only contention of the defendant was that the statute is a violation of the state and United States constitutions, but it does not seem to the court to require any extended discussion to show that the legislature had the right to enact the provisions of this law, and that it does not violate the provisions of the constitutions.

It was said that the defendant could do no harm, if he did no good, and that he should therefore have been permitted to practice his calling without interference, and that this law, which brought him within the definition of one who practiced medicine, and was therefore prohibited from doing so without a license and being registered, deprived him of a legal right to carry on a proper business, and was a violation of the provisions of the constitutions. But a patient may often suffer as well from a failure to prescribe proper remedies, or afford surgical relief promptly, as from making improper prescriptions, or performing unskilful operations. A physician who holds himself out to treat patients for physical ills should know whether to do anything, and what to do, to relieve his patient; otherwise, he should not be permitted to practice, and impose on the unfortunate sufferers who, like the poor, are always with us, and many of whom need the protection of the state against quacks in and out of the profession of medicine. "I [Justice Williams wrote the opinion] have no sympathy with this class of practitioners, who seek to remain outside of the control of the state, for the welfare of the people."

### School Boards May Employ Suitable Persons to Ascertain Physical Condition of Pupils

The Supreme Court of Minnesota holds, in State ex rel. Stoltenberg vs. Brown, City Comptroller (128 N. W. R. 294), that a school board may employ a suitable person to ascertain the physical condition of the pupils in attendance on the public schools of the district.

The court says that the education of a child means much more than merely communicating to it the contents of textbooks. But, even if the term were to be so limited, some discretion must be used by the teacher in determining the amount of study each child is capable of. The physical and mental powers of the individual are so interdependent that no system of education, although designed solely to develop mentality, would be complete which ignored bodily health. And this is peculiarly true of children, whose immaturity renders their mental efforts largely dependent on physical condition. It seems that the school authorities and teachers coming directly in contact with the children should have an accurate knowledge of each child's physical condition, for the benefit of the individual child, for the protection of the other children with reference to communicable diseases and conditions, and to permit an intelligent grading of the pupils.

In this case the board of education of Minneapolis, pursuant to a previously adopted resolution recommending the employment of a suitable graduate nurse for one month to make an inspection of the physical condition of the pupils of certain named schools, appointed the relator to make such inspection at a salary of $60 for the month's services. She performed those services, a warrant for her pay was drawn and signed by the president and secretary of the board, but the city comptroller refused to countersign the warrant. The above considerations and many others not deemed by the court necessary to mention leads it to the conclusion that the comptroller was properly directed by mandamus to countersign the warrant.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### New York Medical Journal

*February 25*

1 A Case of Meningomyelite with Complete Recovery. W. M. Leszynsky, New York.
2 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
3 Neurofibromatosis. W. B. Trimble, New York.
4 *Nature of the Virus of Yellow Fever, Dengue and Pappataci Fever. C. F. Craig, Washington, D. C.
5 Relation of the Doctor to the Church. C. E. Nammack, New York.
6 Two Cases of Renovesical Tuberculosis Treated with the Bacillus Emulsion. J. Pedersen, New York.
7 Chyluria Containing the *Cercomonas Hominis*. C. Rosenheck and G. L. Rohdenburg, New York.

**4. Nature of Virus of Yellow Fever, Dengue and Pappataci.**—In reviewing the work which has been done on the nature of the virus of yellow fever, dengue and pappataci fever, Craig says that one is impressed with the similarity existing between them, a similarity which points to the close relationship of the causative organism. Clinically, there is considerable resemblance, all three diseases having a sudden onset, running a comparatively rapid course, and terminating by crisis rather than by lysis. In point of severity, pappataci fever is the mildest, yellow fever the most severe, while dengue occupies the position between the two. In all three the cause is present in the blood, but only during certain periods; in yellow fever during the first three days of the disease; in pappataci fever during the first day; and in dengue, so far as is known, during the third and fourth days of the attack. In all, the injection of filtered or unfiltered blood produces the disease. All three of the fevers are transmitted by an insect; in two, yellow fever and dengue, by a mosquito, and in pappataci fever by a biting fly. In yellow fever and pappataci fever the causative agent undergoes a cycle of development within the transmitting insect, while in dengue this point is still undetermined. In yellow fever the mosquito does not become infective until twelve days after it has bitten the infected individual, while in pappataci fever the fly does not become infective for from seven to ten days. In all three diseases the causative agent is ultramicroscopic in size, as is passes through the best filters that can be obtained, and because the most careful examinations of the blood both microscopically and culturally have failed to show any parasite. In addition, there is conclusive evidence that these diseases are not contagious. The careful consideration of all of these facts impresses Craig with the belief that yellow fever, dengue, and pappataci fever, as well as other diseases due to a filterable virus, are caused by parasites which differ markedly from any with which we are acquainted. The evidence goes to show that they differ from one another in virulence, thus producing the variations in the clinical picture of the three diseases, just as in malarial infection we have different species of plasmodia which produce mild or severe attacks. In many respects these fevers resemble those due to the malarial plasmodia. Like the malarial fevers, they are transmitted by insects, but may be produced by the injection of blood from an infected individual; while there is almost as much difference in the severity of the fever due to the benign tertian plasmodium and the often fatal infection produced by the estivo-autumnal plasmodia, as there is between yellow fever and severe dengue. The discovery of the actual organisms concerned in the production of these fevers is apparently impossible until we can perfect the microscope or discover some method of staining or cultivating them, but Craig believes that, in time, it will be proved that these fevers are due to closely related species belonging to the same genus, and that in all probability they will be found to belong to that great class of organisms which are daily becoming of more vital interest to the physician, the protozoa.

### Lancet-Clinic, Cincinnati

*February 18*

8 Acute Lung Tuberculosis: A Contagious Serolymph Disease. "Aerogenous." F. Gaertner, Pittsburg, Pa.
9 Conclusive Researches of Medicine. A. R. Peebles, Boulder, Colo.
10 The Adjustment of Eyeglasses. F. W. Davis, Cincinnati.
11 Examination of Prof. Irving Fisher's Report on National Vitality. L. Irwell, Buffalo, N. Y.

### Illinois Medical Journal, Springfield

*February*

12 *Bismuth Paste in Rectal Fistula. E. G. Beck, Chicago.
13 A Clinical Service in Our State Hospitals. F. P. Norbury, Kankakee.
14 Ligation for Partial Thyroidectomy for Hyperthyroidism. C. H. Mayo, Rochester, Minn.
15 *Vital Statistics in Illinois. G. W. Webster, Chicago.
16 The Matas Operation for the Cure of Aneurysm. D. A. K. Steele, Chicago.
17 Leukocytes in the Diagnosis, Classification and Prognosis of Pulmonary Tuberculosis. J. F. Hultgen, Chicago.
18 *Hemolytic Jaundice. W. S. Thayer, Baltimore.
19 Report of Work Done at Ottawa Tent Colony, with Suggestions for Improvement. J. W. Pettit, Ottawa.
20 The Spread of Venereal Diseases. E. W. Fiegenbaum, Edwardsville.

12. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1584.

15. **Vital Statistics in Illinois.**—The history of the vital statistics movement in this country is discussed fully by Webster. His concluding remarks, based, in the main, on the Illinois situation, although applicable to other states occupying the same position as Illinois in this matter, are, in part, as follows:

It is the duty of the State of Illinois to see to it that at least the three principal events in the life of each of its citizens be made a matter of public record. These three principal events are birth, marriage and death. Illinois has spent $40,000,000 on a sanitary canal, largely for the purpose of improving the water supply of some of her cities and chiefly for the purpose of diminishing deaths from typhoid. To what extent has the typhoid death-rate of the state as a whole been affected? Nobody knows. Owing to the lack of any adequate system of sanitary bookkeeping, we don't know the actual annual death-rate in the state, from typhoid, or any other disease, either before the canal was opened, or afterward. What would you think of the business sagacity of a corporation that would spend $40,000,000 on some improvement and then fail to keep a set of books that would enable it to know whether it was a paying investment or not? For several years the Illinois State Board of Health has been engaged in a state-wide antituberculosis crusade. And with what result? Nobody knows. We do not know the exact death-rate from this disease and consequently are not in a position to estimate correctly the value of any or of all the methods instituted for its suppression. The Illinois State Geologic Survey and the Illinois State Water Survey have done splendid service in showing the need of a better water-supply and how to obtain it. What effect has it had on the typhoid or other mortality? Nobody knows. In Illinois, the birth or the death of a blooded horse or a Jersey bull is at once recorded in a herd-book, but the people of southern Illinois, through the voice of their chosen representatives, have gone on record as saying that it is too much trouble to obtain legal permission to bury their dead or to make a legal record of the event and, consequently, in this state, outside of cities having ordinances with a compulsory burial-permit feature, a human being may be placed underground without the slightest legal note or record. What a disgrace to our state that we should be found holding open the door for graveyard insurance. When a human being can pass, or be sent, from this world to the next, without a single formality, inquiry into or record of the cause of the death, and the body buried like a dog, it is time we enacted and enforced a suitable law, if for no other reason than as a deterrent of crime. Good laws are the expression of an enlightened public sentiment enacted for the protection of society as a whole, and not for any class, and another failure to enact a satisfactory birth and death law in Illinois will be greatly to the discredit of the intelligence and public spirit of the people of the state. For sanitary, legal, social, economic reasons, Illinois should prepare and enact, and then enforce, such a birth and death law as will enable her to take her proper place among, not only foreign countries, but her immediate neighbors in the Registration Area of the United States, to the end that sanitary science can be advanced, preventive medicine be improved, the legal rights of every citizen be better protected, a proper foundation be laid for the working out of many social problems of vital importance, the health of every citizen be better protected and life prolonged.

18. **Hemolytic Jaundice.**—Thayer shows that the studies of the last several years have brought out a fairly definite clinical syndrome, that of acholuric jaundice associated with splenomegaly and fragility of the red blood-corpuscles. In its purest form, this group of symptoms is manifested in a sharply defined disease picture, congenital, often familial, splenomegalic jaundice. It is probable that many of Gilbert's cases of chronic simple jaundice with splenomegaly as well as of Hayem's infectious splenomegalic jaundice are examples of the disease. A similar condition is, however, not infrequently encountered in adult life. In these so-called acquired cases the symptoms are, as a rule, considerably more acute and severe than in the congenital malady. The syndrome has, moreover, been found in a variety of other instances of non-obstructive jaundice associated with various infections or poisons. What the essential primary element in these cases may be, is not at present clear. Most important is the recognition of those apparently idiopathic examples of acquired hemolytic jaundice simulating pernicious anemia, cholelithiasis, the so-called splenic anemias or indeed, icterus gravis; most important because of the fact that the recognition and persistent treatment of some of these patients with iron may bring a great improvement, and perhaps permanent recovery. The recognition of this syndrome has opened again, and in an interesting manner, the question as to the possibility of a purely hematogenous jaundice. The methods of studying the corpuscluar resistance necessary for the diagnosis of such cases are, of course, too delicate for use by the busy practitioner, but they may be carried out easily in any well-equipped laboratory. In the severe acquired forms, rest in bed and the other adjuvants suitable for the treatment of any grave anemia should be adopted. In congenital hemolytic jaundice recovery is unknown, but a temporary improvement in the anemia may be obtained by persistent treatment with iron. In acquired hemolytic jaundice long continued treatment may result in apparent, perhaps, indeed, in complete recovery. This is a very important fact when one reflects on the futility of treatment with iron in Addisonian anemia, a malady which may so closely resemble this syndrome.

### Ohio State Medical Journal, Columbus

*February*

21 *Two Cases of Heart Block. L. C. Grosh, Toledo.
22 Natural History of Appendicitis. J. C. Oliver, Cincinnati.
23 Thyroid in Infancy. A. J. Bell, Cincinnati.
24 Possible Abuse of the Eustachian Catheter. J. B. Alcorn, Columbus.
25 Radical Treatment of Abortion. G. W. Kosmak, New York.
26 The Rôle of Functional Conditions in Psychiatry. J. C. George, Dayton.
27 Alimentary Toxicoses and Intoxication. J. J. Thomas, Cleveland.

21. Abstracted in THE JOURNAL, July 16, 1910, p. 244.

### Journal of Experimental Medicine, New York

*February*

28 *Cardiac Hypertrophy. H. A. Stewart, New York.
29 Mercury Bichlorid and Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
30 Barium Sulphate Absorption and Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
31 Effects of Mechanical Agitation and of Temeprature on Complement. H. Noguchi and J. Bronfenbrenner, New York.
32 Morphologic Changes in a Mouse Carcinoma in the Course of Long-Continued Transplantation. R. Kilduffe, Philadelphia.
33 Relations of Embryonic Tissue and Tumor in Mixed Grafts. P. Rous, New York.
34 *Effect of Pregnancy on Implanted Embryonic Tissue. P. Rous, New York.
35 Influence of Mouse-Rat Parabiosis on the Growth of Rats of a Transplantable Mouse Sarcoma. R. A. Lambert, New York.
36 *The Estivo-Autumnal Parasite: Its Sexual Cycle in the Circulating Blood of Man. M. Rowley-Lawson, New York.
37 *Malarial Pigment (So-Called Melanin): Its Nature and Mode of Production. W. H. Brown, Madison, Wis.

28. **Cardiac Hypertrophy.**—Stewart deals with first, the development of the reactive processes known as hypertrophy, in point of view of time after the establishment of a condition favorable to its onset; second, the question of co-hypertrophy; and third, the relation which the altered muscle bears to the normal. He found that hypertrophy induced by the production of aortic insufficiency involves all the chambers of the heart. The greatest absolute increase in weight is in the left ventricle. The remaining segments, arranged in the order of

decreasing increments are septum, right ventricle and auricles. The greatest relative increase is also in the left ventricle, but the auricles show a relative hypertrophy greater than that of the septum or right ventricle. The co-hypertrophy of the auricle is not due to an altered venous pressure, but results from an increased force of auricular systole. The heart shows an increase in weight within one week after the production of aortic insufficiency. The increase in weight is due only in part to an increased water content.

34. **Effect of Pregnancy on Implanted Embryonic Tissue.**—Rous found that grafts of embryonic tissue, obtained at operation and implanted in the mother, will grow well in case she no longer carries young. The growth is no more rapid than that in favorable non-pregnant aliens, but persists for a longer period without retrogression and results in a greater variety of tissues. The superiority of auto-transplantation over iso-transplantation is responsible for this fact. No evidence of a specific "growth-substance" peculiar to the pregnant state is furnished by the experiment. When a mouse is implanted with embryonic tissue from its own uterus, and still carries developing young, the fate of the grafts is very different from that just described. They are vascularized from the host but fail to grow or differentiate. Yet they do not die, and after pregnancy is concluded they may start to grow. The finding is strikingly like that of others of implanted tumor in pregnant hosts. It seems probable that some general factor affecting the growth of implanted tissues is here concerned.

36. **The Estivo-Autumnal Parasite.**—The description of two distinct types of estivo-autumnal crescentic parasites given by Craig, Rowley-Lawson has been unable to confirm. She says that the crescentic parasite is throughout the entire existence extracellular (i. e., not without the substance of the red corpuscle, but attached to its surface). It develops from the familiar small ring-form parasite, retaining a circular contour until fully matured. The very young ring-form parasite has no capsule; the macrogamete has one during its development and sexual activity; while the microgametocyte has it only during its development. The sexual cycle of the crescent may occur in the circulating blood of its human host. The cycle is probably very rapid, for practically the whole cycle can be seen in a few smears taken from one puncture. This microgametocyte, or male, develops a flagellum ( microgamete) which, after the parasite has assumed the crescentic phase, leaves the body of the parasite and enters the body of the macrogamete, or female, during its existence as a round body. Fertilization is then accomplished. The microgametocyte, after the escape of the flagellum, shows evidence of degeneration and is probably cadaveric. After fertilization, the macrogamete assumes the crescentic form, reaches the reproductive phase and undergoes sporulation, the product of which appears to be the small ring-form parasite. Renewed infection of the red cells then takes place.

That the sexual cycle is not seen oftener in the circulating blood of man, Rowley-Lawson believes, may be due to one or more of the following reasons: (a) The process of reproduction may be and probably is very rapid (some forms of protozoa are exceeded in rapidity or reproduction only by bacteria). (b) The cycle may usually take place in some of the internal organs. (c) It may be that the sexual cycle occurs in the peripheral blood only at intervals, when it becomes necessary for the parasite to renew its exhausted vitality. (d) The occasional occurrence of the sexual cycle in the circulating blood may be due to some slight chemical change in the composition of the host's blood-serum. She finds no good evidence of conjugation-forms in estivo-autumnal malaria. She found some of the young ring-form parasites in close approximation or overlying each other. As the sexual cycle does not take place in the blood of man, such a process of conjugation would seem unnecessary, unless it occurred as an atypical process. The fact that the crescent is more resistant to quinin than the other varieties of malarial parasites might be explained by the presence of a capsule which appears to protect the parasite, certainly during the sexual phase and probably during the "resting" period (when not undergoing sexual changes). The youngest form of ring parasite shows no evidence of encapsulation. This may explain the fact that quinin is best administered just before the paroxysm when the parasite is undergoing segmentation.

37. **Malarial Pigment.**—Two important methods for the study of malarial pigment are described by Brown: (a) a method for obtaining a solution of malarial pigment from fixed tissues without the removal of a trace of hemoglobin from the red blood-corpuscles; (b) a method for obtaining an iron reaction in malarial pigment. By comparing the bleach reactions and solubility of melanins and malarial pigment, the dissimilarity of the two classes of pigments has been demonstrated. The spectroscopic examination of a solution of malarial pigment proves conclusively that the pigment is hematin. It is suggested that the action of a proteolytic enzyme of the malarial parasite on the hemoglobin of the red corpuscle is the most probable mode of elaboration of malarial pigment. The difficulty with which the human organism disposes of malarial pigment indicates that the production of hematin cannot be considered as a normal intermediate process in the formation of bile pigments from hemoglobin.

### Journal of the Oklahoma State Medical Association, Muskogee

*February*

38 Some Disorders of Sleep. A. D. Young, Oklahoma City.
39 Difficult Surgical Cases. V. Berry, Okmulgee.
40 Thrush. W. L. Davis, Kingston.
41 Nephrectomy for Infected Cystic Kidney; Recovery. J. H. White, Muskogee.
42 Diagnostic Relationship Between Internal Medicine and Special Surgery. J. Block, Kansas City, Mo.
43 Salvarsan in Syphilis. E. S. Lain, Oklahoma City.
44 Ergotin. H. H. Redfield, Chicago.
45 Sterilization of the Unfit. S. M. Jenkins, Enid.

### Annals of Surgery, Philadelphia

*February*

46 *Anesthesia by the Intratracheal Insufflation of Air and Ether. C. A. Elsberg, New York.
47 *Intussusception, with Special Reference to Adults. E. Eliot, Jr., and J. A. Corscaden, New York.
48 *Diverticula of the Lower Bowel: Their Development and Relationship to Carcinoma. L. B. Wilson, Rochester, Minn.
49 *The Coincidence of Volvulus and Real or Simulated Strangulated Hernia. R. T. Miller, Jr., Pittsburg, Pa.
50 *Restoration of Fecal Continence After Iliac Colostomy. A. Marro, Turin, Italy.

46. **Intratracheal Insufflation of Air and Ether.**—This paper is devoted to the subject of anesthesia itself, with special reference to the technic of the method. The apparatus used for intratracheal insufflation is described. Elsberg has so far anesthetized about thirty patients by intratracheal insufflation. Some of them were operated on for intrathoracic disease, many for abdominal or other affections. He has found the anesthesia very useful in operations on the head and neck, as the anesthetist was never in the operative field or in the way of the operator or his assistants.

47. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298. Appended to this paper are the abstracts of 264 cases recorded in the literature.

48. **Diverticula of the Lower Bowel.**—Fifteen cases of diverticula of the lower bowel were studied by Wilson up to Dec. 1, 1910. Three of these were cases of peridiverticulitis. In these the inflammation did not involve the mucosa. Its presence in the peridiverticular fat was apparently due to leakage through the thin-walled diverticulata—a condition similar to that seen in old umbilical hernias. The symptoms were those of peritonitis or obstruction from pressure. In four cases carcinomata had developed in the diverticula, probably from epithelium segregated by chronic inflammation.

49. **Volvulus and Strangulated Hernia.**—Miller presents two cases, with abstracts of the cases reported since Knagg's paper in 1900. Volvulus, he says, may produce in a hernia signs and symptoms which accurately simulate hernial strangulation; or it may be associated with actual strangulated hernia. Volvulus, in either association, may readily escape recognition; it is probably contributing heavily to the mortality of strangulated hernia. The diagnosis before operation is usually exceedingly difficult; there are, however, certain very suggestive features, viz., advanced age, the presence of hernia for

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many years, shock out of proportion to the signs about the rupture, and marked abdominal pain and tenderness with occasionally a palpable mass. The diagnosis at operation depends on careful observation, there being certain signs which are pathognomonic; an operation undertaken for strangulated hernia must demonstrate absolutely the strangulation. Volvulus proximal to actual strangulated hernia apparently offers no sure means of diagnosis other than routine abdominal exploration—a procedure which is manifestly not to be recommended.

50. **Fecal Continence After Colostomy.**—The fundamental idea of the method Marro applies consists in causing the proximal end of the resected intestine, properly mobilized, to cross a subcutaneous tunnel, which is parallel to the exterior border of the rectus muscle, in such a way that a simple belt (that of the drawers, for instance), going round the trunk and passing over the iliac wings, should play the part of an effectual and comfortable band of compression on the intestinal segment running between skin and aponeurosis. Such a compression may be rendered more active by a contraction of the abdominal wall, in the moments in which the individual feels the need of it, e. g., in diarrheic attacks and during active peristalsis of the colon. Theoretically, its function would thus imitate well enough the natural function of the sphincters. Three cases are reported in which the method proved quite successful.

### University of Pennsylvania Medical Bulletin, Philadelphia

*January*

51 The Public Health Course at the University of Pennsylvania. A. C. Abbott, Philadelphia.
52 Therapeutic Results from the Use of Salvarsan in Twenty-One Cases of Syphilis. J. F. Schamberg and N. Ginsburg, Philadelphia.
53 Studies in Spirochetal Infections. D. H. Bergey, Philadelphia.

### Journal of Abnormal Psychology, Boston

*February-March*

54 *Hysteria and Modern Psychoanalysis. A. Friedländer, Frankfort, Germany.
55 *Fundamental States in Psychoneurosis. B. Sidis, Boston.
56 *The Mechanism and Interpretation of Dreams. E. Jones, Toronto.
57 *Id. M. Prince, Boston.
58 Raymond—His Life and Example, 1844-1910. W. B. Swift, Boston.

54. **Hysteria and Modern Psychoanalysis.**—According to Friedländer, we do not possess a therapy applicable in all cases of hysteria. The cathartic method of Breuer and Freud, from the theoretical standpoint, has been very fruitful for the psychology of hysteria; it is of practical value in certain cases of traumatic hysteria. The association studies of Jung and others deserve critical consideration. The psychoanalytic method, he says, is surely not the only one that is of value in the treatment of hysteria, neurasthenia or obsessions. In so far as the method is connected with the detailed discussion of sexual matters and perversities, it is justly rejected by many authors. Psychical treatment, as it is practiced by those who do not belong to Freud's school, accomplishes as much as sexual psychoanalysis, but it must be aided according to the particular case by general therapeutic measures applicable to functional neuroses and psychoses. (Training in work, hydrotherapy and electrotherapy, dietetics, etc., and, under certain conditions, hypnosis.) The procedure of those authors who carry on a propaganda in lay journals about this method of treatment, which at best is not proved, and which is rejected by many, Friedländer holds deserves emphatic disapproval.

55. **Fundamental States in Psychoneurosis.**—Sidis says that in all his phobia cases, he found as the basis of the morbid condition the primitive instinctive fear of the unknown, of the unfamiliar, a fundamental fear instinct rooted in the impulse of self-preservation, and an overdeveloped sense of the mysterious. The recognition of these fundamental states by the psychopathologist and their disintegration by treatment are of the utmost importance for psychopathology and psychotherapeutics. The fear of the mysterious is the beginning of phobia.

56 and 57. **The Mechanism and Interpretation of Dreams.**—Jones holds that up to the present no one who has taken the trouble to acquire the psychoanalytic method has failed to confirm Freud's theory in all essential particulars. Prince, on the other hand, holds that no one who has shown by his writings that he is thoroughly trained in and conversant from first-hand knowledge with all the phenomena of abnormal, experimental and functional psychology has accepted Freud's theory.

### Ophthalmic Record, Chicago

*February*

59 A Fatal Case of Dementia Following Cataract Extraction. E. Hill, Philadelphia.
60 A Case of Anisometropia. R. P. O'Connor, U. S. Army.
61 Contusion of the Eyeball. E. E. Blaauw, Buffalo, N. Y.
62 Soft Fibroma of the Conjunctiva. J. S. Wyler, Cincinnati.
63 Use of Diagnostic Doses of Old Tuberculin in Determining the Etiology of Optic Neuritis and Neuroretinitis of Obscure Origin. W. E. Gamble, Chicago.
64 *An Unusual Case of Foreign Body in the Eye. R. S. Lamb, Washington, D. C.

64. **Foreign Body in Upper Eyelid.**—The patient in this case was suffering from a condition of the left eye which to all appearances was a trachoma with pannus, or possibly a kerato-iritis with vascularization of the cornea of such long standing as to have caused the beefy-looking inflammation of the upper lid. He gave a history of having got a piece of hair in the eye and of having it removed at one of the hospitals, since when the eye had been better and worse, but always somewhat inflamed. After bleaching with cocain and adrenalin as much as possible, a thorough search failed to discover any sign of any foreign substance, and Lamb concluded it was a case of syphilis, even though the patient denied the knowledge of having been infected. He treated him accordingly internally with Donovan's solution, external mercury rubs and locally with yellow oxid and atropin sulphate 1 per cent., having him use smoked glasses. In the course of a few days the man was better, but complained now of a more marked scratching sensation, whereupon Lamb took cocain and adrenalin, bleached as best he could, and searched carefully and long, finally locating in one of the fleshy masses of the upper lid, near its center at the upper border of the cartilage, a small black point. The surrounding flesh was removed and a wiry hair ¼ inch long was pulled out. It had been imbedded in the lid at right angles to its surface, and so whenever the granulating flesh grew smaller the hair presented itself and began again the process of scratching the cornea.

### Yale Medical Journal, New Haven, Conn.

*January*

65 *A Rare Type of Unilateral Hematogenous Infection of the Kidney. G. E. Brewer, New York.
66 Duties of the State in the Prevention of Tuberculosis. H. F. Stoll, Hartford, Conn.
67 A Case of Dystrophia Adipose Genitalis or Hyposecretion of the Pituitary Gland. F. E. Johnson, Providence, R. I.
68 Treatment of Pulmonary Tuberculosis Outside of the Sanatorium. D. B. Deming, Waterbury, Conn.
69 Some Features of Rectal Alimentation. L. M. Gompertz, New Haven, Conn.
70 *Chronic Family Jaundice. W. Tileston, New Haven, Conn., and W. A. Griffin, Sharon, Mass.

65. **Unilateral Hematogenous Infection of the Kidney.**—Brewer has encountered fourteen cases of this severe type of unilateral infection. Of these, two patients were untreated; both died within twelve days. Four patients were treated by nephrotomy and drainage; all died shortly after operation. Eight were treated by early nephrectomy; all recovered. He also reports a number of cases of some of the milder types of the affection in which measures less radical than nephrectomy are indicated. These cases, like the preceding group, often simulate in their symptomatology, appendicitis, cholecystitis, or abscesses of the liver. If unrecognized and unrelieved by appropriate treatment, they go on to the formation of the more definite and more easily recognized lesions, as renal abscess, perinephritic abscess, pyelonephritis, or pyonephrosis. The lesions in these cases, while the same in general character as in the severe type, are fewer and more scattered, and the amount of renal tissue involved is less. Stripping the capsule from the organ when the lesions are small, or combined with the openings and drainage of cortical abscesses or areas of necrosis when present, constitutes the best treatment. In certain instances, when the treatment has been delayed too long, the suppurative process continues and

a secondary nephrectomy may be necessary. Brewer has operated in about twelve cases of this type, and while there was no postoperative death in the series, on one occasion he was obliged to perform a secondary nephrectomy for advancing sepsis; in another patient in whom the function never returned, he performed nephrectomy for persistent renal neuralgia; and in at least one other case a persistent pyelonephritis has resulted. The end-results in most instances, however, have been satisfactory.

There is still a milder type of the disease, the so-called idiopathic pyelitis, which, as a rule, requires no treatment other than rest, hexamethylenamin, and the ingestion of a large amount of pure water. The symptoms are mild in character, and when on the right side are often mistaken for a subacute appendicitis or cholecystitis. The disease may or may not be ushered in by a chill. When present, the chill generally indicates a severe type of infection. The initial rise of temperature is high, generally 104 F. (40 C.), or 105 F. (40.5 C.); pulse is frequently 120, or above. The toxemia is marked from the first and, with the high fever, suggests often an acute grippe, lobar pneumonia, or one of the exanthemata. Then follows a more or less vague pain in the abdomen, or flank, corresponding to the side of the lesion. Tenderness and muscular rigidity over the region of the appendix, or gall-bladder, leads often to error in believing one of these organs to be the seat of the disease. As the urinary secretion from the infected kidney is greatly diminished, and is largely diluted by the abundant secretion from the unaffected organ, the mixed urine, when passed or drawn from the bladder, is often quite normal in appearance, and the slight trace of albumin, blood and pus, is often overlooked unless a more than ordinary careful examination is made. The one pathognomonic sign present in all cases is a marked unilateral costovertebral tenderness.

70. This article was also published in the *American Journal of the Medical Sciences*, June, 1910.

### Iowa Medical Journal, Des Moines

*February*

71 Indication for Removal of Tonsils. R. M. Lapsley, Keokuk.
72 Function of the Vestibular Apparatus. E. R. Lewis, Dubuque.
73 Relation of the Faucial Tonsils to General Infection. G. F. Harkness, Davenport.
74 Fractures. J. W. Osborn, Des Moines.
75 Salvarsan in Syphilis. R. A. Weston, Des Moines.
76 Case of Syphilis Treated with Salvarsan. J. J. Murphy and W. J. Neuzil, Cedar Rapids.

### Kentucky Medical Journal, Bowling Green

*February 15*

77 Occupational Diseases. C. Weidner, Louisville.
78 The Surgical Patient. M. Casper, Louisville.
79 Points in Diagnosis as Revealed by the Roentgen-Ray. E. T. Bruce, Louisville.
80 *A Case of Heroin Poisoning. J. T. Trawick, Louisville.
81 Postoperative Hernia and Intestinal Resection. Intraligamentary Myoma. W. H. Wathen, Louisville.
82 Endothelioma of the Ovary with Involvement of the Ileocecal Junction. W. H. Wathen, Louisville.
83 A Case of Head Injury. Osteoma of the Uterus. J. H. Peak, Louisville.
84 A Case of Puerperal Eclampsia. J. Hancock, Louisville.

80. **Heroin Poisoning.**—Trawick reports a case of severe poisoning following the injection of ½ grain of heroin, a short time after an operation for chronic appendicitis. The symptoms appeared within ten minutes. The patient had the appearance of a person profoundly under the influence of an opiate. After about an hour of medical and mechanical stimulation and manipulation, the respiration count was about ten to the minute, but during that hour it had been very irregular, going from four to eight a minute, and back to four. The pupils were contracted to pinpoints during this time. The patient recovered.

### Chicago Medical Recorder

*February*

85 *Painful Affections of the Feet. J. L. Porter, Chicago.
86 *Local Paresis of the Bladder. G. Kolischer and H. Kraus, Chicago.
87 *When and How to Treat Varicocele in the Male Operatively. A. P. Heineck, Chicago.

85. Also published in *Surgery, Gynecology and Obstetrics*, January, 1911, abstracted in THE JOURNAL, Feb. 4, 1911, p. 379.

86. Abstracted in THE JOURNAL, Feb. 18, 1911, p. 536.

87. This article has also appeared in the *Illinois Medical Journal*, November, 1910; *Toledo Medical and Surgical Reporter*, December, 1910; *Texas Courier-Record of Medicine*, December, 1910; *Nashville Journal of Medicine and Surgery*, December, 1910; *Medical Summary*, January, 1911; *Pacific Medical Journal*, January, 1911; *Denver Medical Times and Utah Medical Journal*, February, 1911; and the *Medical Fortnightly*, Jan. 25, 1911.

### Annals of Otology, Rhinology and Laryngology, St. Louis

*December*

88 The Maxillary Sinus in the Embryo, Child and Adult Man. J. P. Schaeffer, Ithaca, N. Y.
89 Effect of Maxillary Readjustment on the Development of Nasal Chambers and Face. G. V. I. Brown, Milwaukee, Wis.
90 Widening the Dental Arches in Nasal Stenosis; Its Results and Possibilities. N. M. Black, Milwaukee, Wis.
91 Comparative Anatomy of the Larynx in the Anthropoidea. J. G. Wilson, Chicago.
92 Physiology of Tone Perception. G. E. Shambaugh, Chicago.
93 Present Status of Labyrinthine Surgery. S. J. Kopetzky, New York.
94 Capsulated Bacteria in Production of Acute Middle-Ear Affections. H. B. Graham, San Francisco.
95 Anatomic Explanation of Vestibular Nystagmus. L. K. Guggenheim, St. Louis.
96 *Investigation of Postoperative Conditions from Five to Ten Years After Intubation. B. R. Shurly, Detroit.
97 A Case of Purulent Pachymeningitis with Extradural Abscess, Subdural Abscess and Septic Thrombosis of the Lateral Sinus, Complicating Chronic Suppurative Middle-Ear Disease. J. J. Carroll, Baltimore.
98 Annual Report of the Sanatoria for Tuberculosis in the United States of America and in Canada. J. W. Gleitsmann, New York.
99 A Case of Brain Abscess with Rare Ocular Symptoms. C. Barck, St. Louis.

96. **Postoperative Conditions After Intubation.**—Of a carefully recorded series of 437 intubations for laryngeal diphtheria, in 80 per cent. of which the patients were alive when the tube was removed, Shurly has been able to locate and examine thirty of the older children. All these patients had clinical laryngeal diphtheria. The age varied at operation from seventeen months, the youngest, to eleven years, the oldest. The smallest dose of antitoxin given was 1,000 units; the largest 4,000 units. The time during which the tube was worn consecutively was from forty-eight hours to one hundred and twenty-four hours. No instance of retained tube occurred in any of these cases. Four patients required reintubation. In one case intubation had been attempted by two other operators during some hours, without success. Other cases of diphtheria appeared in the same family or in the neighborhood, from which the contagion could be traced in five of these cases. The subsequent statements show the extent of susceptibility of infectious or contagious diseases in these cases, as follows: Measles, ten cases; chicken-pox, four cases; mumps, four cases; whooping-cough, two cases; scarlet fever, three cases. Partial or complete aphonia remained for from one day to seven years after the removal of the tube. "Throat disease" was claimed in ten cases. Four patients were partial, periodic or complete mouth-breathers. Other adenoid symptoms were present in six cases. Lung or heart disease was noted in six cases. Affections of the ears were acknowledged by four. A greater susceptibility to coryza was observed in seven cases. Dyspnea, asthma or hay fever was present in two cases (from adenoids).

The examination was made five years after intubation in one case, and from eight to twelve years in the other cases. Nasal conditions requiring operations were: Deflected septum, four; intumescent and hypertrophied turbinates, two. In eight nasopharyngeal conditions required operation (tonsils). No laryngeal conditions required operation. Enlarged cervical glands were found in nine cases. Thickening of the interarytenoid fold was observed in four cases. Every patient in this series was intubated for laryngeal diphtheria. Shurly concludes that intubation in laryngeal diphtheria is required more frequently when marked tonsillar hypertrophy exists, and that pathologic adenoids and tonsils are prominent predisposing factors in diphtheritic infections of the larynx. No deleterious effects of antitoxin were noted. Laryngeal paralysis is extremely rare after intubation, he states. Scar tissue was observed in two cases. The cicatrix was insignificant and apparently produced no modification in function. No case of laryngeal paralysis was found, although one with motor insufficiency was observed. Children developing laryn-

geal diphtheria show, Shurly says, a marked tendency to other infections in childhood. So-called chronic catarrhal inflammation of the upper respiratory tract is usual after severe diphtheria.

### Medical Fortnightly, St. Louis

*January 25*

100 *When and How to Treat Varicocele in the Male Operatively. A. P. Heineck, Chicago.
101 *Abdominal Position for Drainage in Suprapubic Prostatectomy. H. J. Scherck, St. Louis.
102 The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.

*February 10*

103 The Need of an Adequate Alphabet. A. L. Benedict, Buffalo, N. Y.

100. This article has also appeared elsewhere. See No. 87.

101. Abstracted in THE JOURNAL, Feb. 18, 1911, p. 535.

### Therapeutic Gazette, Detroit

*February*

104 Value of Taka-Diastase in Diabetes Mellitus. E. J. G. Beardsley, London.
105 *Relative Value of the Various Methods for the Determination of Kidney Sufficiency. B. A. Thomas, Philadelphia.
106 Teaching of Therapeutics. H. C. Wood, Philadelphia.
107 Case of Vincent's Pseudomembranous Angina. W. E. Shea, Missoula, Mont.
108 *Surgical Anesthesia and Blood-Pressure. G. F. Lull and C. H. Turner, Philadelphia.

105. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

108. **Surgical Anesthesia and Blood-Pressure.**—The authors made a study of the blood-pressure and its relations to the pulse rate during administration of various anesthetics, hoping to determine by instruments of precision the onset of untoward symptoms. In all cases, the pressure was taken the day previous to operation, one hour before operation, at the starting of the anesthetic, every five minutes during the operation, one hour after the operation, and the day following; the pulse rate being recorded each time the pressure was taken. In some cases the Stanton instrument, in others the Tycos, was used. They learned that when ether is used the blood-pressure rises at first in nearly every case. When the ether was preceded by ethyl chlorid the pressure remained unchanged during the few moments of ethyl chlorid administration, but when the ether was started, the pressure rose as in the cases in which ether alone was employed. When the skin incision was made it was found that there was a fall in the blood-pressure, which was more marked if the patient was but lightly anesthetized; this fact was also noted in operations in which the peritoneum was incised. One point already well known was once again confirmed, namely, that if the ether was pushed to the point of very deep anesthesia during the operation the blood-pressure fell in proportion to the degree of ether saturation. They conclude that artificial anesthesia causes in many cases a marked alteration in the ratio between the blood-pressure and the pulse rate; this is augmented by anything that produces shock to the nervous system during the operation, notably incision of the skin or peritoneum or drawing on the pedicle of an organ. If at the time of this shock anesthesia be light, the shock will not be so marked as if the patient were under deep anesthesia. In certain operative cases in which the patients show abnormal blood-pressure, on the one hand whether it be high or low, or on the other hand present evidences of cardiac fatigue or actual myocardial weakness, a suitable course of treatment would likely be to diminish chances of circulatory complications both during and after operation to a considerable degree.

### Denver Medical Times and Utah Medical Journal, Denver

*February*

109 *Varicocele of the Spermatic Cord. (a) When to Operate? (b) How to Operate? A. P. Heineck, Chicago.
110 Penetrating Wounds of the Eyeball. L. W. Snow, Salt Lake City, Utah.

109. See No. 87.

### Canadian Medical Association Journal, Toronto

*February*

111 Surgical Treatment of Gastric and Duodenal Hemorrhage. G. E. Armstrong, Montreal.
112 Exophthalmic Goiter. A. McPhedran, Toronto.
113 *Death and Disability Resulting from Childbirth. H. M. Little, Montreal
114 Two Cases of Typhoid Spine. J. Halpenny and D. F. McIntyre, Winnipeg.
115 Origin of Urinary Calculus. G. S. Gordon, Vancouver, B. C.
116 Sarcoma of the Lung. E. S. Jacques, Montreal.

113. **Death and Disability.**—From the opening of the new Montreal Maternity, Oct. 17, 1905, to Oct. 1, 1909, there were treated at that institution 2,634 patients. Of these thirty-five died. It is admitted that this 1.33 per cent. unexpurgated mortality is unusually high, but no patient seriously ill was refused admission, even postpartum, and during the entire four years no patient whose death seemed imminent was allowed to be removed from the hospital. The causes of death were one or other of the forms of toxemia, 40 per cent.; infection, 37 per cent.; and all other causes, including placenta prævia, 23 per cent. Of thirteen patients dying as the result of infection, seven came to the hospital after treatment outside; four had been delivered; two partially delivered; and in one, a placenta prævia, had been repeatedly examined. Another patient with a streptococcus sore throat died of peritonitis within a few hours of delivery, and the child likewise died of streptococcus septicemia. One case of Cesarean section terminated fatally after operation, as did also one case in which pubiotomy was done. For the three remaining cases there is no excuse offered by Little. Two of the patients were delivered spontaneously and one by a low forceps operation, all within two weeks of one another. He says that while laceration of the cervix and of the perineum may account for a certain number of the conditions noted, one further feature in the general management of cases postpartum seems to be accountable for much later distress. This is the custom of tightly bandaging the patient after delivery, and leaving her in such a condition that she is comfortable only when lying flat upon the back. This procedure has, he believes, three distinct disadvantages. In the first place, it absolutely opposes any involution of the round ligaments, which would tend to draw the uterus forward; it prevents the falling forward of the uterus on the bladder, with the consequent tendency to spontaneous micturition; and, finally, tends permanently to hold the uterus back, so that the anterior lip of the cervix is drawn forcibly from the more or less fixed posterior lip, and laceration, if present, is prevented from healing by the formation of scar tissue in the angle of the wound. Not only does this permanent opening of the cervix cause discomfort later, but it is usually associated with a permanent displacement of the uterus. Opposed to these three marked disadvantages of the binder, there is, in Little's opinion, no definite advantage to be claimed for its use.

### Texas State Journal of Medicine, Fort Worth

*February*

117 Modern Civilization's Greatest Blot—Our Care of the Insane. J. M. O'Farrell, Richmond.
118 Reasons Why the Care and Treatment of Mental Diseases in Texas State Hospitals Are Not Ideal. J. R. Nichols, San Antonio.
119 Prophylactic Suggestions in Degenerative Tendencies. G. H. Moody, San Antonio.
120 Pneumonia: Its Symptomatology and Diagnosis. G. B. Foscue, Waco.
121 The Adenoid Operation. H. C. Haden, Galveston.
122 Treatment of Syphilis with Salvarsan. M. W. Colgin, Waco.

### Journal of Ophthalmology and Oto-Laryngology, Chicago

*February*

123 *Recent Contributions to Our Knowledge Concerning Sympathetic Ophthalmia. E. V. L. Brown, Chicago.
124 Use of Scarlet Red in Corneal Diseases. W. O. Nance, Chicago.
125 Acute Purulent Frontal Sinusitis. C. M. Miller, Richmond, Va.
126 Objective Aural Tinnitus Associated with Hyperthyroidism. D. Yates, New York.

123. Abstracted in THE JOURNAL, June 4, 1910, p. 1893.

### St. Louis Medical Review

*January*

127 Physiology and Hygiene of Puberty. H. Ehrenfest, St. Louis.
128 Pelvic Diseases Associated with Puberty. E. Marx, St. Louis.
129 Relation of Puberty to Nervous Diseases. M. W. Hoge, St. Louis.
130 Cutaneous Accidents of Puberty. J. Grindon, St. Louis.
131 Other Diseases Associated with Puberty. I. Gray, St. Louis.
132 Conditions Producing the Nervous Child. S. R. Roberts, Atlanta, Ga.
133 Salvarsan in Syphilis. J. L. Bohm, St. Louis.
134 Leprosy. J. Knott, Dublin.

**Journal of the Delaware State Medical Association, Wilmington**

*February*

135 Pulmonary Tuberculosis. W. C. Pierce, Wilmington.
136 Value of Laboratory Findings in Diagnosis and Prognosis of Abdominal Surgical Diseases. B. W. Goldsborough, Cambridge.

**Journal Minnesota State Medical Association and Northwest Lancet, Minneapolis**

*February*

137 Orthopedic Treatment of Infantile Paralysis. A. J. Gillette, St. Paul.
138 *How Shall We Treat Appendicitis After the First Forty-Eight Hours? J. E. Moore, Minneapolis.
139 Iodin in Surgery. F. E. Walker, Hot Springs, S. D.

138. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1923.

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## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

**British Medical Journal, London**

*February 11*

1 *The Choice of a Diuretic. E. Smith.
2 *Serotherapy of Diphtheria. E. W. Goodall.
3 *The Argyll Robertson Sign in Cerebral and Spinal Syphilis. J. M. Clarke.
4 Tuberculin Dispensaries. A. M. N. Pringle.
5 Color Vision and Color Blindness. F. W. Edridge-Green.
6 Yellow Fever in West Africa. Sir R. Boyce.
7 *Poisoning After Small Doses of Acetyl-Salicylic Acid (Aspirin). C. Morgan.

1. **The Choice of a Diuretic.**—The citrates, acetates and tartrates of sodium, potassium and ammonium, Smith says, increase the osmotic pressure of the blood and draw water from the tissues into the blood stream. They do not, therefore, irritate the kidneys, and may be used without fear, he declares, even when these organs are acutely inflamed. It is important that when taken, these drugs should be well diluted, for their action on the kidneys is thus rendered more certain; and it is useful to combine them with spirits of nitrous ether, which, on account of the nitrite of ethyl it contains, is a useful agent in causing dilatation of the afferent vessels of the kidney. In cases of renal dropsy, if the illness be acute, the saline diuretics are the only remedies of the kind which can be given without risk of further injury to the affected organs. That they may act with success, it is of the highest importance to make sure that there is no obstruction to the portal circulation through the liver. A preliminary dose of blue pill followed by a liberal saline aperient is always advisable; and if during the course of the treatment the action of the remedies is found to be getting uncertain or ineffectual, especially if the arterial tension be high, a repetition of the dose will prove to be of service. In all cases, a careful watch should be kept on the work of the bowels, and their action should be encouraged by sufficient doses of a watery aperient every day or every other day, such as the compound jalap powder. To be effectual, this powder must be ordered in adequate dose, and its action can be rendered more energetic by the addition of jalap. In the treatment of adults, elaterium is a useful remedy, but in early life its action is uncertain, and the jalap powder is to be preferred in the case of a child.

The remedial action of pilocarpin Smith has not found very satisfactory. When the acuteness of the attack subsides and the complaint begins to settle down into a chronic course, Smith advises the use of some of the special drugs which act directly on the secretory apparatus, such as digitalis and caffein. In the choice of a diuretic in cardiac dropsy, we must bear in mind that the cause of the edema lies primarily in the chest, and not in the abdomen, and that remedies which act on the kidney are of little or no value unless combined with others which strengthen the action of the heart. We must remember, too, that when blood-pressure is low, drugs which tend to lower arterial tension still further are not only useless, but become an actual source of danger. Digitalis, strophanthus, convallaria, squill and some other drugs act as cardiac tonics, but digitalis, as a rule, is the most prized. Its efficacy as a diuretic may be further enhanced by giving it in combination with other drugs which promote diuresis by different means. The citrate of caffein is, perhaps, the most useful of these drugs in ordinary cases. The combination is further strengthened by the addition of sweet spirits of nitre, as dilator of the afferent vessels of the kidney, in doses of from 30 to 60 drops. In giving this combination it is best to prescribe the digitalis alone or in conjunction with the nitrous ether for two or three days before adding the caffein, as digitalis requires to be taken several days before its effects become noticeable. The dose of caffein should be moderate (from 2 to 3 grains two or three times a day), as stimulation of the epithelial cells of the kidney should always be looked on as a temporary measure which is not to be abused, and may do harm if carried to excess.

The infusion of broom-tops (scoparius) is another safe remedy which may be usefully combined with digitalis. It contains spartein, an alkaloid which has an action on the heart similar to that of caffein, and also contracts the afferent vessels of the kidneys. An ounce of the infusion given in conjunction with a dram of the infusion of digitalis, from 30 to 60 drops of spirits of nitrous ether, and from 60 to 90 drops of the acetate of ammonia solution is a diuretic of great value, both in cardiac dropsy and in that which results from renal disease after the acute stage is at an end. Nitrous ether is one of the most valuable diuretics and can be included in most combinations; but it is incompatible with salicylates, and also with antipyrin and any drug containing tannin. Its good effects are most noticeable when given in combination with acetate of potash, digitalis and squill.

When progress seems at a standstill, there are two drugs, either of which will often bring about a welcome change in the situation—tincture of cantharides, from 2 or 3 to 10 minims, and mercury. Either calomel or blue pill may be employed, but Smith prefers the latter. Mercury is to be avoided, he says, if renal disease be present, and when given should not be pressed if diuresis does not result in the course of three or at the most four days, for it is in such cases that the system may possibly be unfavorably affected by the treatment. Smith has given blue pills in doses of 3 grains, three times a day, in many cases, both to young people, 10 or 12 years of age, and also to the adult, and has found it to be very well borne and to produce free secretion; but when diuresis has been fully established, he has made it a rule to discontinue the mercury and replace it with a mixture of caffein and spirits of nitre with infusion of broom-tops. If the mercury be continued too long there is the risk of setting up stomatitis; and in any case it is wise while the remedy is being taken to wash out the mouth several times a day with a suitable antiseptic solution.

2. **Serotherapy of Diphtheria.**—Goodall is averse to using antitoxin as a prophylactic. He says that not only might it happen that the person treated was especially and peculiarly susceptible to the action of serum, even if he was not known to be asthmatic, but supposing he was not naturally susceptible, it would not be unlikely that by the injection one would render him artificially so, in which case, if subsequently it were found to be necessary to use antitoxin remedially, he would run the risk of undergoing a very unpleasant illness. There are outbreaks of diphtheria in institutions for the care of children, in which, Goodall thinks, the use of antitoxin as a prophylactic, given cautiously and after due inquiry into the children's life history, may be justified. But he is strongly of the opinion that an indiscriminate use of serum as a prophylactic is not only unnecessary, but unjustifiable.

3. **Argyll-Robertson Sign in Cerebral Syphilis.**—In a recent analysis of forty-eight cases of syphilis of the brain and twenty-one of the cord, sixty-nine in all, Clarke obtained the following results with regard to the Argyll-Robertson pupil: In every case there was a clear history of syphilis, or some undoubted syphilitic lesion, and, in addition, in the later cases Fleming's test was positive. Out of the sixty-nine cases, the Argyll-Robertson pupil was present in two of cerebral syphilis. One patient was a man, aged 32, apparently with syphilitic meningitis of the convexity; he had headaches, was apathetic, forgetful, depressed, with indistinct or slightly slurring speech and exaggerated knee-jerks. He showed

no improvement under treatment, and his symptoms suggested the possibility of an early stage of general paralysis. The other patient was a woman, aged 45, who suffered from right facial paralysis twelve years ago, five years ago was under Clarke's care for cerebral syphilis, with right hemiplegia and Argyll-Robertson pupil, and has developed on the hemiplegia a typical tabes dorsalis. In another patient there was paralysis of the right third nerve, with complete iridoplegia, the left pupil did not react to light on admission, but recovered fully under treatment. In six patients the pupil reaction to light was sluggish, but not absent, and in three it became much brisker after treatment. One patient suffered from epileptiform fits, both general and localized, with headache and vomiting; two from hemiplegia, with headache and vomiting; one from meningitis of the convexity, with hemiparesis, cranial nodes and double optic neuritis; the fifth was a patient with hereditary syphilis, with cerebral symptoms and optic neuritis; and the sixth was a patient suffering from syphilitic cerebrospinal meningitis, with hemiplegia and intense optic neuritis. Optic neuritis, in varying intensity, was present, therefore, in three of the six patients with sluggish reaction; optic neuritis does not, of course, abolish the light reaction.

Of the twenty-one spinal cases, in one the light reaction was sluggish, and in two the Argyll-Robertson sign was present. Of the latter, one was a rather remarkable case. The patient was a man, aged 32, who had had left hemiplegia two years before, from which recovery was not complete. When admitted, he was dull, apathetic, and had some mild delusions as to place and as to his circumstances. The cord affection corresponded to Erb's syphilitic spinal paralysis, and was of very gradual onset, with the usual affection of the bladder, great exaggeration of deep reflexes, and double extensor plantar reflex. The pupils were very small. Under mercurial treatment he made an unexpectedly good recovery, both as to his mental and physical state, and was able to return to work. The Argyll-Robertson sign persisted. In the other case the cord affection was of the same kind, with no affection of sensation, no ataxy, and no symptoms, except slight incontinence, beyond those clinically referable to degeneration of the pyramidal tracts; the disease was also of very gradual onset. It is an interesting point that the only cases presenting the Argyll Robertson sign among Clarke's cases of syphilitic disease of the cord are cases belonging to the clinical group of syphilitic spastic paraplegia, first described by Erb.

7. **Poisoning After Small Doses of Acetylsalicylic Acid.**—Morgan reports a case of a rare idiosyncrasy to acetylsalicylic acid, a vasomotor neurosis, allied to angio-neurotic edema, but without visceral symptoms. Half an hour after taking 5 grains of the drug, the patient noticed that her lips were swollen. The swelling spread rapidly all over the face, and finally the tongue and throat became affected. In twenty-four hours all swelling had disappeared. Several months later the patient was told to take the drug again. Within an hour she became very anxious and restless, her face was enormously swollen, especially the eyelids, lips and nose. The tongue was swollen so much that it was with difficulty protruded between the teeth. The fauces also were much swollen, and she complained of great discomfort in her throat. There was no headache, but she complained of her head being "funny and uncomfortable." On her hand and forearms there was an urticarial rash. The pulse was 110, feeble. The pupils were moderately dilated, and the conjunctiva of both eyes were bloodshot. Next morning the swelling was much less, but the eyelids were still very puffy, and the vessels of the conjunctiva engorged; in fact, this symptom did not disappear for a week. The pulse was 80, and she felt well.

### Lancet, London

*February 11*

8 Clinical Aspects of Emotion and Action. T. C. Shaw.
9 *Color Vision and Color Blindness. F. W. Edridge-Green.
10 *Pathology and Treatment of Injuries Caused by Electricity. Sir T. Oliver.
11 *Possibility of Modifying the Effect of an Inoculation of Tuberculin by Combining with It a Local Anesthetic. H. W. Crowe.
12 Pantopon Anesthesia. C. L. Leipoldt.
13 A New Method of Administering Nitrous Oxid, with or Without Oxygen, for Prolonged Dental Operations. N. S. H. Warner.

9. This article also appears in the *British Medical Journal*, Feb. 11, 1911.

10. **Treatment of Injuries Caused by Electricity.**—There are two main theories as to the cause of death in electric shock: (1) inhibition of the medulla oblongata, leading to arrest of respiration, followed by cessation of the beat of the heart; (2) death directly from the heart without the intermediary of respiration. Oliver's experiments seemed to show death to be of cardiac origin. After death from electric shock there is usually rigidity of the muscles. The heart is flaccid, especially the right ventricle, which contains dark fluid blood. The left ventricle may be empty. The lungs may show nothing abnormal, or there may be signs of congestion, if death was not immediate and artificial respiration had been resorted to. The pupils are dilated. The brain and spinal cord may be congested, and the abdominal veins and viscera full of dark blood. There may be hemorrhage in the brain and petechial hemorrhages in the pleura and pericardium. Although the blood is usually fluid, it is occasionally coagulated. On spectroscopic examination, it is found to contain both oxyhemoglobin and reduced hemoglobin. Chromolytic changes in the cerebral cells were found in two cases reported by Oliver. For slight shock followed by recovery no treatment is required. For burns the application of boric acid compresses, or charcoal poultices, if there is much destruction of tissues, is called for. When an injured workman is in contact with or cannot lose grip of live metal, the greatest care must be exercised in touching his body, for any attempt to separate the two might be followed by a disastrous shock to the person rendering assistance. Under any circumstances the breaking of the current means a fresh shock to the individual concerned. Once the circuit is broken, should there be no signs of life, the body must be placed on its back and artificial respiration immediately resorted to and continued for a considerable time, even if there is no quick response. In Oliver's experiments he succeeded in resuscitating animals whose heart beats and respiration had ceased for several minutes.

11. **Inoculation of Tuberculin with Local Anesthesia.**—The only question on which Crowe attempts to throw light is whether the inoculation of tuberculin produces its effect in any degree by stimulating afferent nerve endings at the site of the injection. His procedure has been to combine a considerable proportion of a 4 per cent. solution of beta-eucain lactate with varying doses of tuberculin in cases of phthisis under treatment by vaccines. Daily observations of the opsonic index were recorded during the whole course of the investigation, and as far as possible the blood specimens were taken at the same hour of the day. There was a distinct difference in the response to an inoculation of tuberculin in phthisis if eucain was combined with the dose. The chief proof of this rests on the form of opsonic curve which follows such doses as compared with doses in which no eucain was given. There is a possibility that an inoculation of tuberculin produces its effect, in part, by stimulating the central nervous system. Such stimulation may take place at the site of the inoculation.

### Indian Medical Gazette, Calcutta

*January*

14 The Uncovenanted and Subordinate Medical Services. D. G. Crawford.
15 Cholera in India. P. Hehir.
16 Arrows and Arrow Wounds in Manbhum. S. Anderson.
17 The Health of a Bengal District. H. Sen.
18 Two Cases of Ascariasis. A. D. Stewart.
19 General Paralysis of the Insane in a Native of India. P. Heffernan.
20 The Ipecacuanha Treatment in Liver Abscess. E. Muir.
21 Traumatic Rupture of the Prostatic Urethra. L. P. Stephen.

### Journal of Laryngology, Rhinology and Otology, London

*February*

22 A Clinical and Bacteriologic Study of Thirty-Six Cases of Mastoid Suppuration, Including Ten Cases of Intracranial Complication. A. L. Turner and F. E. Reynolds.

### Practitioner, London

*February*

23 Improved Diagnosis of Cancer of the Large Intestine. A. E. Barker.
24 Extraperitoneal Cesarean Section and Its Scope in Modern Obstetric Surgery. A. W. Russell.
25 General and Spinal Anesthesia. A. Brownlee.
26 Indications and Contra-Indications for Spinal Anesthesia. E. C. Ryall.
27 Cocain Anesthesia in Minor Surgery. L. R. Braithwaite.

28 Administration of Anesthetics on the Open Mask. W. Rankin.
29 Behavior of the Blood-Pressure in Chloroform and Ether Anesthesia, with Special Reference to Shock. H. P. Fairlie.
30 Surgical Treatment of Chronic Pleural Effusions. J. L. Stretton.
31 Neuroretinitis in Anemia. R. B. Hird.
32 *Relation of the Chemical Compositions of Human Milk to Chronic Diarrhea and Eczema in Nurslings. W. J. Maloney.
33 Treatment of Acute Pneumonia. A. G. Reid.
34 Review of Diseases of Children. H. Thursfield.
35 A Retrospect of Otology, 1910. M. Yearsley.
36 The Ament. A. R. Douglas.
37 Medical Practice in Stuart Times. A. Shepperd.

**32. Human Milk and Diarrhea.**—Maloney found that diet and exercise seem to have little or no influence on the sugar and fat content of human milk. Menstruation may coincide with marked impoverishment in fat. The amount of fat in milk varies as the hour and phase of the food, and also according to individual peculiarities of mothers; a rigorous maternal régime does not appreciably influence the richness of the milk in fat; but an impoverishment may appear simultaneously with the menses. The lactose of human milk is remarkable for the constancy of its amount, which seems indifferent to feeds, days, régimes, and menstrual periods. In sixteen milks examined by Maloney, varying in age from 3 weeks to 7 months, the amount of lactose was only once below 5.28 per cent., and twice above 6.50 per cent. The average age of these milks was 3.12 months, and the average percentage of lactose they contained was 5.82. The percentage of lactose usually attributed to human milk seems, therefore, to be too high. Diarrhea in breast-fed infants whose feeding is carefully directed may persist in some cases owing to excess of fat in the milk; in others, either owing to the presence of an abnormal laxative principle in the milk, or to the undue irritability of an otherwise normal intestinal tract. In none of Maloney's cases could excess of sugar be incriminated. A state of chronic diarrhea prevailed in seven nurslings whose feeding was carefully directed, and whose food was not abnormally rich either in fat or in lactose. Regulation of the mothers' régime did not influence this diarrhea. From three to six, usually four, motions occurred daily; they were characteristically of a light yellow color, semifluid, inoffensive, and without curds. The infants steadily gained in weight, were apparently content, enjoyed an average amount of sleep, and were not unduly querulous. Four of these babies had a history of a persistent tendency of looseness of the bowels from birth. This benign diarrhea resulted, therefore, says Maloney, either from some relatively harmless laxative principle in the mother's milk, or from an excessive irritability peculiar to the infant's intestine. If, on transferring the child for a time to a healthy wet-nurse whose own charge was progressing normally, the diarrhea should cease, the mother's milk would be proved abnormal; if, however, it should continue, the infant's intestine would be proved hypersensitive. The three or four motions each day represented the child's habit. The only treatment required was to discourage weaning and to reassure the mother; for her benefit a little bismuth was usually given to the child. Eczema may arise in nurslings from overfeeding, from richness of the milk in sugar, and from the influence of a faulty maternal hygiene on the chemical composition of the milk. But undoubtedly it may, as in Maloney's six cases, exist in the absence of overfeeding and when the milk contains only a normal amount of sugar. It may remain unaffected by the sacrifice of all the maternal indiscretions of diet. Probably it may arise independently of its commonly alleged factors; yet the co-existence of diarrhea and eczema in three babies makes Maloney reluctant to exonerate the milk-supply in any case of eczema occurring in a nursling.

### Medical Press and Circular, London

*February 1*

38 Vaccination Treatment of Gonorrheal Complications. W. Friedländer and H. Reiter.
39 Treatment of the Chronic Stage of Infantile Spinal Paralysis in General Practice. F. Hernaman-Johnson.
40 Modern Treatment of Gonorrhea. C. F. Marshall.
41 Urine Analysis. J. B. Smith.

*February 8*

42 Prognosis in Pulmonary Tuberculosis. T. D. Lister.
43 Treatment of Puerperal Eclampsia. W. J. Smyly.
44 A Case of Eclampsia. K. Maguire.
45 Pathology of the Embryo in Relation to Abortion. J. Lindsay.
46 Modern Treatment of Gonorrhea. C. F. Marshall.

### Bulletin de l'Académie de Médecine, Paris

*January 24, LXXV, No. 4, pp. 59-108*

47 *Vaccination Against Typhoid. H. Vincent and Committee.
48 Cicatricial Stenosis of the Esophagus Due to Cardiospasm. A. Chauffard and G. Guisez.

**47. Vaccination Against Typhoid.**—Vincent summarizes in detail the efforts in this line in various countries and the results obtained, presenting finally the conclusions of the majority of the committee of ten that had been appointed to study the subject. The conclusions were given in the Paris Letter in THE JOURNAL, February 25, page 601, together with the adverse minority report.

### Presse Médicale, Paris

*January 28, XIX, No. 8, pp. 65-80*

49 Experiences with Salvarsan in Nervous Disease. G. Marinesco.
50 Local Anesthesia in Treatment of Tuberculosis of the Larynx. M. Boulay.
51 Physiology of the Corpus Callosum. J. Lévy-Valensi.
52 Recovery in Two Cases of Atrophic Cirrhosis of the Liver. Le Play and Doury.

*February 1, No. 9, pp. 81-88*

53 Emotional Shock and Confusional Psychoses. J. Seglas and A. Collin.
54 *Continuous Stream of Oxygen in Treatment of Diffuse Peritonitis. S. Banzet.

**54. Continuous Stream of Oxygen in Treatment of Diffuse Peritonitis.**—THE JOURNAL, May 28, 1910, page 1829, mentioned encouraging results that have been obtained by flushing the abdominal cavity with a constant stream of oxygen which escapes through drains at the lowest points. Banzet's experience in a case of diffuse peritonitis in a woman of 30, confirms the advantages of this simple measure. Besides the biologic stimulating effect of the oxygen, the gas helps, he asserts, to expel all morbid products and fluids. From the previously almost dry drains poured a flood of serous and purulent fluid after the jet of oxygen was turned into the abdomen. Banzet did not have at his disposal a tank with a stopcock to regulate the flow, and consequently he had to apply the oxygen from rubber bags, a bag containing 20 liters taking about half an hour to empty itself. The drains should not be perforated, he says, and he found that the oxygen acted more effectively when it was introduced through the different drains in turn.

### Semaine Médicale, Paris

*February 1, XXXI, No. 5, pp. 49-60*

55 *Determination of Hydremia by Refractometer. (L'hydrémie chez les brightiques et las cardiaques oedemateux; son étude à l'aide de la méthode réfractomètrique; comparaison de ses variations à celles du poids.) F. Widal, R. Benard and E. Vaucher.

*February 8, No. 6, pp. 61-72*

56 *Combinations of Drugs in Therapeutics. (Les associations médicamenteuses et le renforcement de l'activité d'un médicament par une autre substance ajoutée à petite dose.) P. Chapelle.

**55. Estimation of Hydremia in Nephritis and Cardiac Edema.**—Widal has long insisted on the importance of daily weighing of patients with a tendency to failing compensation and chronic kidney trouble as it is thus possible to detect retention of fluids before the edema becomes clinically manifest. The blood itself early becomes diluted, and he has found that the refractometer is a sensitive index of the degree of this dilution. He here gives the clinical findings in a number of cases in which both the changes in weight and the refractometric hydremia index were recorded in parallel tracings and the various types of the curves determined for interstitial and epithelial nephritis and in heart disease alone or associated with kidney disease. The findings are also recorded during and outside of courses of salt-poor dieting and administration of digitalis. They show that the serous infiltration of the tissues is accompanied by corresponding dilution of the blood; an "edema of the blood," he remarks, is the natural accompaniment of the edema of the tissues. As the weight declines, the refractometric index rises, but the change in weight becomes apparent first. The refractometer shows that as the excess of fluid is thrown off first from the tissues, the blood remains diluted for a time, and only later becomes concentrated. The action of digitalis is shown by the refractometric findings as it causes a sudden influx of the edema fluid into the blood. The fluids impregnating the tissues interfere with their normal nutrition and when the fluid is drained

away part of the constituents of the cells are washed away with it, and the patient emerges from the course of treatment much thinner, but recuperates afterward like a typhoid convalescent. The increase of weight later may be due to reaccumulation of the edema, and this can be determined by the refractometer; if the curve persists within normal limits, there is no dilution of the blood and no paralleling edema of the tissues. The refractometric findings also reveal at once if the course of dechloridation has not been continued long enough; the drop in the index is a warning to abstain still longer from salt.

56. **New Combinations of Old Drugs.**—Chapelle reviews recent research which has shown that the therapeutic efficiency of certain drugs can be materially enhanced by addition of even a minute amount of some other drug. The data learned recently in regard to the action of ions, of the colloids and metallic ferments, superficial tension, radio-activity, anaphylaxis, immunity, etc., have thrown much light on biologic processes and have shown the infinite variety of conditions in which there is an unstable balance between the cellular elements and the media laving them, so that the possible increased efficacy of combinations of drugs no longer seems paradoxical. They open new horizons and virgin fields for applying the old weapons in new ways and combinations.

**Berliner klinische Wochenschrift**

*January 30, XLVIII, No. 5, pp. 197-240*

57 *Radium in Gout and Rheumatism. W. His.
58 *Pylorospasm. M. Einhorn (New York).
59 *Therapeutic Action of Shutting Off Part of Circulation. (Künstliche Verkleinerung des Kreislaufs als wirksame Heilmethode.) J. Tornai.
60 *Cirrhosis of the Liver. (Entstehung des Ascites.) F. Klopstock.
61 *Experiences with Subcutaneous Arthrodesis. S. Peltesohn.
62 Tonsillectomy. (Totale Ausschälung der Rachenmandeln.) Sturmann.
63 Transmission of Rat Sarcoma and Mouse Carcinoma to New-Born Animals. A. Buschke.
64 Infectious Conjunctivitis in the Samoan Islands. (Epitheliosis desquamativa conjunctivae.) A. Leber and S. v. Prowazek.
65 *Mydriatic Action of Organ Extracts and Fluids. E. Catapano.
66 Medical Impressions of America. W. Nagel.
67 *Differential Reaction in Human and Cow's Milk. G. Tugendreich.

57. **Treatment of Gout and Rheumatism with Radium.**—His thinks that there are great therapeutic possibilities for internal medicine in radium treatment, his experience having shown the efficacy of radium emanations in a number of cases of gout and rheumatism as adjuvants to the ordinary measures. He gives the radium emanations usually by inhalation, having the patients stay for two hours daily in air containing from 2 to 4 Mache units, equivalent to 1,000 electric units. The apparatus used provides a stream of oxygen bubbling through a fluid containing the radium salt and sat urated with its emanations, a ventilator distributing the emanations through the room. He regards it as important to distinguish between gout and rheumatism as the dietetic indications are important and vary widely. The only criterion is the presence of uric acid in the blood, and he deplores the fact that he knows of no simple and easy technic for detecting uric acid in the blood. The only reliable method, he states, is that of Krüger and Schmidt, applied to as much as 80 or 100 c.c. of blood. Since he has systematically investigated the blood by this method, he has had many surprises, finding that uricacidemia is evidently responsible for the frequent myalgias in the back of the neck, shoulders and lumbar muscles in many cases while they are of rheumatic origin in others. Many insidious and symmetrical affections of the smaller joints, which seem to be rheumatic, are shown by the blood-test, he asserts, to be due to uricacidemia; as also neuralgia, especially sciatica, in many cases. He hopes that a reliable unit for work with radium will soon be developed and possibly that some commoner substance may yet be discovered with radio-active powers. In conclusion, His remarks that old exostosis, indurations, loose bodies in joints and extreme atrophy of the muscles and similar irreparable conditions are not amenable to radium or any treatment; the best results may be anticipated in the more recent cases of not too long duration, in which the main changes are merely from infiltration of the joint capsule. See Ab. 3, page 700.

58. Practically the same article was published in the *Medical Record*, New York, Jan. 21, 1911.

59. **Shutting Off Part of the Circulation as a Therapeutic Measure.**—Tornai applied Klapp's suggestion to shut off part of the circulation as an improved method of giving anesthetics, but Tornai uses it without regard to any drug. He found that by applying a constricting band to arrest the venous circulation in the limbs, the heart had less than half the former area to serve and could work with so much less blood that its task was proportionately lightened, and it was thus given a chance to recuperate. He has applied this as a therapeutic measure in a number of cases, shutting off the circulation in the limbs for twenty or thirty minutes every morning for a week or so. The effect was striking, he reports, in cases of fatigue and dilatation from stasis of the right heart, the right ventricle being too weak to empty itself completely during the systole. By holding back part of the blood, the right ventricle was able to accomplish its task better, with less expenditure of energy, and was given a chance for rapid recuperation. The most striking benefit was obtained with mitral affections, but benefit was also realized even with degeneration of the myocardium and with beer heart, the tachycardia, arrhythmia and insufficient systole subsiding. After release from the constriction the pulse becomes slower and more regular. In the severer cases in which heart tonics fail, little can be expected from the constriction method, but he has obtained good results in a few exceptional cases even of this kind. The relief from the measure is so great that often the patients await its application with impatience. Diuresis is generally promoted, and there was profuse sweating in some cases as the constricting bands were removed; this must be done very slowly and gradually. He uses rubber tubing for the constricting band as for the Momburg technic. He attempted to enhance the action of drugs by this means, finding that a small amount had an immeasurably greater effect when the limbs were excluded from the circulation, but in order to accomplish this the arterial circulation in the limbs had to be arrested likewise, and the constriction kept up for an hour or more; the patients objected to this, so he has abandoned the method.

60. **Etiology of Cirrhosis of the Liver.**—Klopstock presents arguments to show that ascites is not always due to disturbances in the portal circulation, but is more liable to be the expression of chronic peritonitis. This theory throws light on the infectious and toxic factors in the origin of cirrhosis, and it also suggests that the Talma operation of omentofixation is not applicable in every case. The very fact that the ascites was cured immediately by this operation in a number of cases showed that the cure could not have been due to establishment of a collateral circulation as this requires time to develop. He knows of over 300 cases in which the Talma operation has been employed, but permanent benefit was obtained in only 30 per cent. of the 274 cases compiled by Bunge. It is adapted only for the cases in which the portal circulation is actually the causal factor.

61. **Subcutaneous Arthrodesis.**—Peltesohn reports three cases in which he followed Bade's technic of hammering an ivory peg into the joint. The outcome was a failure in every case, although all the wounds healed by primary intention, and there was no reaction of any kind on the part of the tissues to the presence of the foreign body. The trouble was in the ivory pegs which seemed to disintegrate; one broke, and in each case the ivory had to be removed.

65. **Mydriatic Action of Organ Extracts.**—Catapano describes experimental work which demonstrated that extracts of the suprarenals and hypophysis have a distinct and intense mydriatic action, while a weaker action was observed in the same line with extracts of the thymus, kidney, pancreas, liver, ovaries, testicles and muscle tissue, but not with the thyroid, brain or spleen. The mydriatic action is thus shown to be not an exclusive property of the suprarenals.

67. **Differentiation of Human and Cow's Milk.**—Tugendreich states that human milk gives a brown color reaction, while there is no reaction with cow's milk, when 3 c.c. of the milk are mixed with an equal amount of a 1 or 2 per cent. solution of silver nitrate and rapidly heated to boiling, three times in succession. He thinks this color reaction is connected with the

urine reaction mentioned by Engel and Turnau, whose article was abstracted in THE JOURNAL, February 18, page 546. [A later article by Boschan explains the reaction as merely the reduction of the silver nitrate by the chlorid in the urine. The brown stain occurs when the proportion of chlorids is low.]

### Correspondenz-Blatt für Schweizer Aerzte, Basel

*February 1, XLI, No. 4, pp. 113-144*

68 *Varying Susceptibility to Opium with Age. E. Döbeli.

68. **Opium for Children.**—Döbeli reports extensive experimental research and clinical experiences which supplement the data in the literature, all proving that infants are especially susceptible to opium, but that older children are no more sensitive than adults if the dosage is proportional to their age. Suckling rabbits were twice as sensitive to opium and morphin as adult animals, but after the young rabbits had been eating ordinary food for a time they were no more sensitive than adults. He found, however, that the susceptibility to codein was alike at all ages.

### Deutsche medizinische Wochenschrift, Berlin

*February 2, XXXVII, No. 5, pp. 193-240*

69 Treatment of Benign Superficial Tumors. (Gutartiger Hautgeschwülste.) H. Paschkis.
70 Fifth Edition of the German Pharmacopeia. (Pharmakopoea Germanica Ed. V, 1910.) E. Harnack.
71 *Lack of Durable Action of Salvarsan in Neutral Suspension in Treatment of Syphilis. T. v. Marschalko.
72 *Technic of Intravenous Injection of Salvarsan. (Zur Frage der Gefahr endovenöser Einspritzung saurer Lösungen von Salvarsan.) v. Notthafft. (Nadel für intravenose Injektion von Salvarsan.) H. Loeb.
73 Serodiagnosis of Syphilis. J. Traube.
74 *Treatment of Lupus of Mucous Membranes. (Behandlung des Schleimhautlupus.) M. Senator.
75 *Symptoms of Thyroid Intoxication After Iodid Medication. G. Wolfsohn.
76 Advantages of Chloroform Anesthesia in Normal Deliveries. (Schmerzlinderung bei normal Gebarten.) B. Ehrlich.
77 Cholera Vibriones Found in the Donau River. E. Ströszner.
78 Action of Hydrogen Dioxid on Enzyme-Producing Property of Mucosa and on the Enzymes. (Einwirkung von Wasserstoffsuperoxyd auf das enzymproduzierende Vermögen der Schleimhaut und auf die ausgeschiedenen Enzyme.) L. E. Walbum.
79 *The Picric Acid Test for Seminal Fluid. (Neuer Beitrag zu meiner Spermareaktion.) M. Barberio.
80 *Fatal Diabetes Mellitus in Five Brothers and Sisters Between Ages of 4 and 11. T. Langaker.
81 Venereal Disease in Goethe's Poetry. (Die "Liebeskrankheit" in Goethes Dichtung.) M. Levor.

71. **Salvarsan in Syphilis.**—Marschalko has never witnessed any serious signs of arsenic intoxication in the course of salvarsan treatment of almost 400 patients, but he warns that subcutaneous and intramuscular injections have no durable curative action. In fifty-four cases in which the patients have been under continued observation for from two to five months, recurrence has been the rule in nearly 50 per cent., and he advises other physicians not to waste their efforts with these ineffectual technics, but to use the intravenous technic which, he states, seems to be far more reliable in respect to the durable action of the drug. He ascribes great importance to the Wassermann reaction, having found it a most valuable guide in over 4,000 cases of syphilis in the last two and a half years. In most of the cases in which salvarsan was given the Wassermann reaction gradually declined in intensity, but it became absolutely negative in only a few. He thinks that salvarsan given by the intravenous route, supplemented by mercury, is the technic for the future. He refuses now to inject salvarsan when there is a tendency to paralysis, as one patient who had had paralysis for some years died two weeks after injection of 0.3 gm. of salvarsan. There seemed to be considerable improvement for ten days after the injection, but then severe paralysis developed; there were no symptoms of arsenic intoxication at any time.

72. **Technic for Intravenous Injection.**—The danger with intravenous injection is that the needle entering the vein may go too far and injure the posterior wall of the vein. To avoid this secondary injury, von Notthaft always exposes the vein, incises it between clamps and then cautiously introduces the needle in the incision. This technic cannot be applied casually in the office or home.

74. **Treatment of Lupus of Mucous Membranes.**—Senator states that expert examination of the mucosæ is indispensable for detection of all foci and lesions, and that surgical treatment will succeed while other methods are liable to fail. Long-continued supervision is necessary to attack recurrences at their first inception.

75. **Thyroid Intoxication After Iodin Medication.**—Wolfsohn reports the case of a woman of 42 who was given potassium iodid in treatment of leg ulcer, as the lack of benefit from other measures suggested a possible syphilitic factor in the lesion. The day after the iodid had been commenced, the patient complained of enlargement of the neck and malaise, with tremor of eyelids, tongue and fingers; the pulse increased to 128 and the heart-beat was unusually loud and fast, with slight enlargement to the left; there was no fever. The iodid was suspended at once and the symptoms had disappeared by the end of a week. Three months later, the leg ulcer showing no improvement, it was dressed with vioform, a powder containing iodin, and in half an hour the entire leg burned and itched and in the evening the neck had become enlarged and an erythema developed, with tremor; both lobes of the thyroid were found enlarged, but not tender. During the intervals and beforehand there had never been any signs to call attention to the thyroid. In another case a woman of 32, with an old tendency to goiter and nervousness, developed Basedow symptoms after a course of iodids and thyroid tablets. The injury from this treatment persisted unmodified after the suspension of this treatment and the exophthalmic goiter syndrome has continued a progressive course during the five years since. Injection of 5 c.c. of this patient's serum into a guinea-pig evidently induced a special hypersusceptibility to iodin in the animal as it died with signs of anaphylaxis when injected with a little iodin which the control animals bore without disturbance. Wolfsohn's experiences further warn of the necessity for constant supervision of patients taking iodin, whether there is a manifest goiter or the thyroid is not palpable. The possible injury from iodin cannot be estimated beforehand; even minimal amounts are liable to induce signs of severe thyroid intoxication.

79. **Picric-Acid Test for Seminal Fluid.**—Barberio here reviews all that has been published on this forensic test for differentiation of human seminal fluid, the general conclusions testifying to the sensitiveness and reliability of the test. An equal volume of a saturated aqueous solution of picric acid is mixed with the fluid to be examined, after filtration; the specific crystals soon form even in a concentrated solution of five-year-old fluid. The crystals dissolve if the mixture is heated, but after filtering they recrystallize out again as the fluid cools. The crystals are insoluble in cold water, but dissolve in dilute hydrochloric acid and in solutions of the halogen salts of the alkaline metals. The specific crystals are octahedrons, and the findings parallel those with the Florence test, but the reaction can be obtained for years after the Florence test has ceased to give positive findings.

80. **Diabetes Mellitus in Children.**—Langaker reports from Christiania the history of a healthy family with eight children, all apparently robust, until one after the other five of the children died between the ages of 4 and 11 of typical diabetes mellitus. The environment was good and the children well cared for, but five died thus in the course of nine years. Nothing grossly pathologic was found at the necropsy of the first child that died but in the last child the pancreas seemed to be much degenerated; the others were not examined post mortem.

### Medizinische Klinik, Berlin

*January 29, VII, No. 5, pp. 165-206*

82 Modern Progress in Treatment of Nervous and Mental Diseases. A. Pilcz.
83 *Tuberculosis of Iris After Chilling. (Iristuberkulose durch Erkaltung.) B. Fleischer.
84 *Differential Diagnosis of Exophthalmic Goiter. (Zur Klinik des Morbus Basedowii und seines Grenzgebietes.) C. Kraus.
85 Dissecting Metritis and Uterine Abscess. J. Risch.
86 Suprarenal Treatment in Bronchial Asthma. E. Pick.
87 Chemotherapy of Spirilloses. P. Uhlenhuth.
88 Treatment of Earache. (Inwieweit kann man auch ohne Ohrenspiegeluntersuchung den Ohrenschmerz behandeln?) F. Bruck.
89 Technic for Wassermann Reaction. A. Alexander.

83. **Acute Tuberculous Iritis After Chilling.**—The importance which industrial insurance is assuming in Germany lends interest to the case reported: A boy of 14 was driving a wagon through a small stream when the pole-pin broke and

### Zentralblatt für Gynäkologie, Leipsic

*February 4, XXXV, No. 5, pp. 177-224*

118 *Technic of Pubiotomy. R. Costa.
119 Operative Sensibility of Female Genitalia. (Sensibilität der weiblichen Geschlechtsteile.) J. v. Mann.
120 Treatment of Placenta Prævia in the Home. (Zur Behandlung der Placenta praevia in der Aussenpraxis und zur extraovulären Einführung des Metreurynters.) J. Füth.
121 Perforation of Intestine During Curettage of Uterus. K. Justi.

118. **Technic of Pubiotomy.**—Costa gives an illustrated description of an improved method of pubiotomy which ensures preventive hemostasis of the vessels under the pubis. In carrying out the operation as described on ten cadavers, the bladder had been filled with a blue stain; no trace of injury of this organ could be detected.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*January 26, XXXII, No. 12, pp. 123-130*

122 Acidity of Urine Not Constant in Tuberculosis. Barabaschi.

*January 29, No. 13, pp. 131-146*

123 Internal Hypersecretion. (Il concetto clinico dell'ipersecrezione interna.) G. A. Pari.

### Riforma Medica, Naples

*January 16, XXVII, No. 3, pp. 57-84*

124 *Inherited Hemorrhagic Telangiectasia. W. Osler.
125 *Exploratory Puncture of Bone Marrow. G. Ghedini.
126 Isolytic and Heterolytic Power of Organic Fluids. E. Cedrangolo.

*January 23, No. 4, pp. 85-112*

127 Pathogenesis of Infectious Purpura Hemorrhagica. S. Cannata.

124. **Inherited Hemorrhagic Telangiectasia.**—Osler reports a fifth case of this anomaly, his other four having been published at various times since 1901. Others have reported similar cases since so that he now knows of fourteen or fifteen families in which two or more members through from two to five generations had these multiple telangiectasias of the skin and mucous membranes, bleeding frequently and leading in some cases to repeated and almost fatal epistaxis. The only etiologic factor of any account seems to be the heredity. One of his patients had had repeated epistaxis for over forty years; another had frequent hemorrhages from a vascular nevus on the hand and another on the arm. Probably in many of the cases the anomaly has been regarded as a manifestation of hemophilia, but this is incorrect, he thinks. The trouble is a dilatation of the capillaries and smaller veins and much can be done in treatment by cauterization. In his last case he warded off danger by destroying the dilated vessels in the nose and on the tongue by cauterization. The patient was a woman of 35 and the lesions had notably increased in number and size during the last six years. Coe has reported benefit from administration of calcium lactate in such cases, and Osler suggests that if the angiomas are large it might be wise to apply radium treatment.

125. **Exploratory Puncture of Bone Marrow.**—Ghedini here reports the experiences on which he based his conclusions recently summarized in these columns, February 4, page 389. Application of the measure in twenty-four cases has demonstrated, he remarks, the ease and simplicity of the technic and its harmlessness.

### Hospitalstidende, Copenhagen

*February 1, LIV, No. 5, pp. 105-136*

128 *Multiple Punctures in Treatment of Cystic Disease of the Kidney. (Behandling af det multilokulære Nyrekystom med multiple Punkturer.) T. Rovsing.
129 Inherited Predisposition to Pulmonary Tuberculosis. (Arvelighed af Disposition til Lungetuberkulose.) N. J. Strandgaard. Commenced in No. 4.

128. **Multiple Puncture in Cystic Disease of the Kidney.**—Rovsing had a patient, a man of 41, who had been healthy until about a year before when violent pains in the left kidney region came on suddenly and the attacks returned from time to time, with occasionally mild pains in the right side. There was considerable albuminuria and the left kidney was found much enlarged. On the diagnosis of tumor of the kidney, Rovsing exposed the left kidney and found it studded with cysts. Nephrectomy was contra-indicated as cystic disease is generally bilateral, and the urine from the other kidney was not normal. He at once punctured the superficial cysts and then the deeper and deepest ones. There was scarcely any bleeding and after the puncture the kidney subsided to less than half its former size. He left a wick in the wound and the diuresis increased while the albuminuria disappeared. The patient was freed entirely from pain and regained full earning capacity, dying three years later from uremia following an acute febrile disease. Rovsing had been very dubious in regard to the outcome, for, if the "retention cyst" theory of cystic disease of the kidney is correct, the multiple puncture holes would have drained away the urine and infiltration and a fistula would have been the result. On the other hand, if the disease were in the nature of a new growth, there was danger that the tumor mass would proliferate into the adjoining tissue. Nothing of the kind occurred; the wound healed rapidly and there was no question but that the operation was not only palliative but improved the kidney functioning; there must have been considerable sound kidney tissue which was able to resume functioning when released from compression by the cysts. Encouraged by this success he applied the same measure in two other cases later, with equal benefit, as he relates in detail.

### Norsk Magazin for Lægevidenskaben, Christiania

*February, LXXII, No. 2, pp. 105-224*

130 Clinical Experiences with Thiosinamin and Fibrolysin. H. L. C. Huitfeldt.
131 Fibrolysin in Chronic Adhesive Peritonitis. N. B. Koppang.
132 Clinical Experiences with Salvarsan. K. Grøn.
133 *Bile Pigment in Blood Serum and Its Clinical Significance. (Galdereaktion i blodserum og dens kliniske betydning.) O. Scheel.
134 Improved Cuff for Dosage of Constriction Hyperemia and Blood-Pressure. (Professor Perthes' apparater.) E. E. Lindboe.

133. **Clinical Importance of Bile Pigment in the Blood Serum.**—Scheel reports his experiences with tests applied to detect the presence of bile pigment in the blood in health and in various diseases. An instructive diagram shows at a glance the findings in the urine with the Gmelin test in these different conditions and the proportion of bile pigment in the blood serum as determined by the Gilbert reaction, the original test slightly simplified. The reaction was naturally most pronounced in jaundice, next in pernicious anemia and pyemia while failing compensation with a heart defect came next. Chronic nephritis without stasis was within normal range; with stasis there was a slight positive reaction.

## Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE NINTH YEAR-BOOK OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION. Part II, The Nurse in Education. By Thomas D. Wood, A.M., M.D., Professor of Physical Education, Teachers College and Columbia University; M. Adelaide Nutting, Professor of Nursing and Health, and of Household Administration, Teachers College, New York City; Isabel M. Stewart, Instructor in Nursing and Health, Teachers College, New York City, and Mary L. Read, B.S. Supplement to the Year-Book on "Health and Education" Discussed at the Indianapolis Meeting of the National Society, Feb. 28, 1910. Paper. Price, 78 cents. Pp. 76. The University of Chicago Press, Chicago.

INEBRIETY. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment and the Medicolegal Relations. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Price, $3. Pp. 365. Cincinnati: Harvey Publishing Co., 1911.

TWENTY-SIXTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND. For the Year Ending Dec. 31, 1903, and Including the Report on the Registration of Births, Marriages and Deaths in 1902. Cloth. Pp. 300. Gardner T. Swarts, M.D., Secretary, 70 Waterman Street, Providence, R. I.

A MANUAL OF PHYSICAL DIAGNOSIS. By Brefney Rolph O'Reilly, M.D., C.M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto. Cloth. Price, $2 net. Pp. 369, with 49 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NINETY-SEVENTH ANNUAL REPORT OF THE TRUSTEES OF THE MASSACHUSETTS GENERAL HOSPITAL. Including the General Hospital in Boston, the McLean Hospital and the Convalescent Hospital in Waverley. 1910. Paper. Pp. 294, with illustrations.

REPORTS OF THE TRUSTEES AND SUPERINTENDENT OF THE BUTLER HOSPITAL. Presented to the Corporation at its Sixty-Seventh Annual Meeting, Jan. 25, 1911, Providence, R. I. Paper. Pp. 55. G. Alder Blumer, M.D., L.R.C.P., Superintendent.

FORTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Public Document No. 34. Cloth. Pp. 917. Mark W. Richardson, M.D., 145 State House, Boston, Secretary. 1909.

THE JOHNS HOPKINS HOSPITAL REPORTS. Volume XVI. Paper. Pp. 670, with 151 illustrations. Baltimore: The Johns Hopkins Press, 1911.